1/2 009 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--IMPROVEMENT IN THE SEDIMENTATION AND FILTRATION PROPERTIES OF MAGNESIUM HYDROXIDE -U-

AUTHOR-(02)-STAVROV, S.N., TODIRASH, V.D.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. UKR. 1970, (1), 6-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--FILTRATION, SEA WATER, LIME, MAGNESIUM HYDROXIDE, SODIUM CHLORIDE, GEOGRAPHIC LOCATION, CALCIUM CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1449 STEP NO--UR/0436/70/000/001/0006/0008

CIRC ACCESSION NO--AP0109509

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0109509

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE PRODUCTION OF MG(OH)SUB2 FROM SEA WATER BY PPTN. WITH MILK OF LIME, FILTRATION AND RINSING ARE DIFFICULT. WHEN NACL IN THE LIME SUSPENSION INCREASES, THE FILTRATION RATE INCREASES CONSIDERABLY. FAVORABLE CONDITIONS EXIST IN THE SOUTH SIVASH, NORTH OF THE CRIMEAN PENINSULA, WHERE THE WATER CONTAINS 11-14PERCENT SALTS (2.5PERCENT CACL SUB2 AND 9PERCENT NACL). THE MG(OH) SUB2 IS PPTD. TOGETHER WITH CACO SUB3 AND THE MIXT. SERVES AS RAW MATERIAL FOR THE PRODUCTION OF MG SALTS.

UNCLASSIFIED

INITIAL STRESSES IN REINFORCED AND FILLED POLYMERS

UDC 678.5:539.319

[Article by V. P. Stavrov, A. F. Veltishchev, Gomel' State University, Ural Polytechnic Institute imeni S. M. Kirov, Sverdlovsk; Mekhanika Polimerov, Russian, No 1, 1973, submitted 19 January 1972, pp 90-96]

The methods of the statistical elasticity theory were used to calculate the beam stresses in the components of unlaxially reinforced and randomly filled polymers occurring during the process of manufacturing the material as a result of different coefficients of linear expansion of the components and chemical shrinkage of the binder. Formulas were also obtained for the microscopic characteristics of the investigated media — the Young's modulii, the coefficients of linear expansion and the shrinkage factors. The results are compared with the experimental data and with the results of calculations by the formulas of other authors. The relations obtained for the stresses in the components as a function of their properties provide a satisfactory explanation for the experimentally established positive correlation between the shrinkage and the compressive strength of the composition based on furan resin. The bibliography has 9 entries.

In polymer materials has been stated by various authors [1-5], the advantages of the statistical statement of the problem of the initial stresses in reinforced polymers are indicated. In the present paper, the calculation formulas were obtained for the mean stresses in the components of the polymer materials reinforced in one direction and in polymer compositions based on the dispersed or short-fiber fillers. The cause of the occurrence of the initial stresses can be the variation in volume of the binder as a result of polymerization or polycondensation (chemical shrinkage), and the difference in the coefficients of linear expansion of the components: therefore, in the given paper both mentioned factors are considered. The problem is solved under the assumption of the linear elasticity of the components which, of course, leads to higher values of the stresses by comparison with the stresses actually existing in the materials; however, the known experimental papers [1, 4] in which a relation close to linear was obtained for the stresses in the reinforced

STAVROV, V. P.

USSR

UDC 621.396.6-181.48

ANDROSHCHUK, A. F., VASIL'YEV, YU. P., STAVROVICH, N. V.

"Prospects for Creating Thin-Film Rhenium Resistor Microcircuits"

Tr. VNII elektroizmerit. priborov (Works of the All-Union Scientific Research Institute of Electrometering Devices), 1971, No 10, pp 108-114 (from RZh-Radiotekhnika, No 7, Jul 72, Abstract No 7V297)

Translation: A study was made of the time stability of thin-film rhenium resistors with a specific resistance of 100 ohms/square. The optimal conditions for depositing the rhenium on the UVN-2M-1 device are developed. The prospects for utilizing rhenium as the material for manufacturing thin-film highly stable resistor microcircuits based on it is proved experimentally.

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Acc. Nr. AP0041504 Abstracting Service: CHEMICAL ABST. 4170 Ref. Code UR0366

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89722u N-Alkoxycarbonyl-derivatives of aminals and enamines. Stavrovskaya, A. V.; Protopopova, T. V.; Skoldinov, A. P. (USSR). *Zh. Org. Khim.* 1970, 6(1), 19–24 (Russ). In the reaction of $RCH(OEt)_2$ (I) with 1/3 equiv. $R^1O_2CNH_2$ in the presence of acid catalysts, the main reaction products are $RCH(OEt)NHCO_2R^1$ (II) and only small amts. of $RCH(NHCO_2R^1)_2$ (III) are formed. When 1 equiv. I reacts with 2 equivs. $R^1O_2CNH_2$, III only are obtained. Heating II (R is Me, Et, or Pr, R^1 is Et) at 150–200°/150–200 mm gives $R^2CH:CHNHCO_2Et$ (IV) (R^2 is H, Me, Et); II without H on the α C gives $RCH:NCO_2R^1$ (V) (R is Ph, R^1 is Me or Et). In the presence of strong acids, II are equilibrated to I–III mixts. The reaction of IV with $R^1O_2CNH_2$ gives III. Conversely, heating III gives IV. The reaction of V with EtOH in the presence of weak acids gives a mixt. of I and III.

CPJR

REEL/FRAME
19751372

1/2 018 UNCLASSIFIED PROCESSING DATE--020CT70

TITLE--THERMAL CONDUCTIVITY OF CERIUM DIOXIDE -U-

AUTHOR-(02)-CHEKHOVSKOY, V.YA., STAVROVSKIY, G.I.

COUNTRY OF INFO--USSR

SOURCE--(CONF-691002, PP 295-8) THERMAL CONDUCTIVITY OF CERIU DIOXIDE. (AKADEMIYA NAUK SSSR, MOSCOW. INSTITUT. VYSOKIKH TEMPERATUR)

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--THERMAL CONDUCTIVITY, CERIUM OXIDE, HEAT MEASUREMENT, TEMPERATURE DEPENDENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/2022 STEP NO--UR/0000/70/000/000/0295/0298

CIRC ACCESSION NO--AT0108348

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AT0108348

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMAL CONDUCTIVITY OF CERIUM DIOXIDE WAS MEASURED IN THE 300 TO 1200DEGREESC TEMPERATURE RANGE USING AN INTERNALLY HEATED CYLINDER. THE EXPERIMENTS WERE CONDUCTED IN ARGON ATMOSPHERE. THE BULK WEIGHT OF THE MATERIAL TO BE STUDIED AND HEATED TO 1700DEGREESC TEMPERATURE WAS 6.7 G-CM PRIME3. NO EXPERIMENTAL DATA ON CERIUM DIOXIDE THERMAL CONDUCTIVITY IN THIS TEMPERATURE RANGE HAS BEEN AVAILABLE IN LITERATURE.

UNCLASSIFIED

USSR

UDC: 517.4

STAVSKAYA, O. N., Moscow

"Investigation of Convergence in the Problem of Rectification"

Moscow, Matematicheskiy Sbornik, Vol 88(130), No 1(5), May 72, pp 118-136

Abstract: The author considers the problem of "rectification"; i. e., motion in the plane of a broken line $\overline{A}(t)$ given by its $n+1$ vertices. Motion is determined by some operator in $(2n+2)$-dimensional space which will rectify the broken line when infinitely repeated. The rules for displacement of vertices are localized and homogeneous for all internal vertices of the broken line. The author investigates the behavior of $\overline{A}(t)$ in the neighborhood of stationary points. She proves global convergence to these points from certain initial states as t approaches infinity. The author thanks A. M. Leontovich for discussion and for reading the work.

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STAVSKAYA, O.N. Mathematics

Penny Dread

30 Oct 70 124 FTD:CYBERNETICS

USSR All-mathematics UDC: 62-50

LEONTOVICH, A. M., PYATETSKIY-SHAPIRO, I. I., STAVSKAYA, O. N., Moscow

"Some Mathematical Problems Connected with Morphogenesis"

Moscow, Avtomatika i Telemekhanika, No 4, Apr 70, pp 94-107

Abstract: The theory under investigation is that morphogenetic movements in embryonic tissue may be controlled by the relative position of the cells. In this article, the problem is posed as follows: What are the simplest sets of decision rules which can be used by the individual cell, such that a group of cells, each of which functions by the same rules, will arrange itself in a straight line? The solution is approached by mathematical modeling on a computer.

The model chosen is a discrete time interval model. The initial state is that of a sequence of points connected by straight lines, making up an irregular contour. Each point, except the end points, is connected to a predecessor and a successor. The final state is to be a straight line in the plane, with the distance between adjacent points always equal to some desired value. Assuming that the motion of each point is controlled only by its position relative to its two neighbors (one neighbor for end points), the authors derive simple vector equation forms for these movements. There are two functions involved in these equations, one which causes

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USSR

LEONTOVICH, A. M., et al, Avtomatika i Telemekhanika, No 4, Apr 70, pp 94-107

the separation between adjacent points to approach the desired value and one which causes the line to become straight. The latter is in turn divided into two subfunctions, one of which (a function of the distance between the two neighbors of a central point) cannot be zero, and the other (a function of the positions of three points in a row) may be zero. The requirement of a fixed distance between points makes linear solutions impossible, but more closely approximates biologically realistic situations. Expressing the desired function in terms of vectors in the plane and second order matrices, the authors impose a requirement on these matrices of invariance not only under rotation, but under arbitrary reflection. This causes the simulation in the plane to be more like realistic events in three dimensions.

A number of initial positions were modeled, and the following conclusions were drawn: 1) Most initial positions converge to a straight line of the desired size; 2) "Degenerate" initial positions in which the points are in a straight line but not all interior points lie between the two end points (one end of the line is folded over to coincide with another section, leaving a loop or a double line) do not converge; 3) No general demonstration of absolute convergence for all non-degenerate cases was obtained; 4) If the initial position was symmetrical about a point, the final line passes through the point; 5) If the initial position has an axis of

2/3

1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--CERTAIN MATHEMATICAL PROBLEMS CONNECTED WITH MORPHOGENESIS -U-

AUTHOR-(03)-LEONTOVICH, A.M., PYATETSKIYSHAPIRO, I.I., STAVSKAYA, O.N.

COUNTRY OF INFO--USSR

SOURCE--AVTOMATIKA I TELEMEKHANIKA, 1970, NR 4, PP 94-107

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--COMPUTER APPLICATION, MATHEMATIC MODEL, CYTOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1726 STEP NO--UR/0103/70/000/004/0094/0107

CIRC ACCESSION NO--AP0118704

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118704

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THERE HAVE BEEN CONSIDERED GEOMETRICAL PATTERNS OF MORPHOGENETIC MOVEMENTS WITHOUT TOUCHING UPON THE PHYSICAL CHEMICAL NATURE OF THE FORCES WHICH INDUCE THESE MOVEMENTS. THE RULES OF THE MOVEMENT OF CELLS IN OUR MODELS DEPEND ONLY ON THE POSITION OF A SMALL NUMBER OF THEIR NEIGHBOURING CELLS. THERE HAVE BEEN INVESTIGATED PATTERNS OF THE MOVEMENTS OF A LINE CONSISTING OF CELLS ON A PLANE. THERE HAS BEEN CHOSEN THE SIMPLEST PROBLEM, THAT OF LINEARIZATION. THE ARTICLE PRESENTS THE RESULTS OF MODELLING ON A COMPUTER WHICH SHOW THAT OUR RULES ENSURE THE SOLUTION OF THE PROBLEM OF LINEARIZATION.

UNCLASSIFIED

USSR UDC: 620.193.5

KONEV, V. N., CHEBOTIN, V. N., SUNTSOV, N. V., and STAVTSEVA, L. I., Ural State University imeni A. M. Gor'kiy

"Nickel Oxidation in an Atmosphere With Various Amounts of Sulfur Dioxide"

Moscow, Zashchita Metallov, Vol. 6, no. 4, Jul-Aug 70, pp 448-450

Abstract: The presence of sulfur dioxide in the air strongly increases the nickel oxidation rate and causes the formation of scale of a complex composition. However, research in the subject is far from complete. The scale produced in this study at 750 and 800°C comprises three layers. According to x-ray diffraction and microscopic examination data, the outer layer is the most dense, the middle layer is relatively porous and contains a NiO phase, while the inner layer, with a metallic glitter, closely adheres to the metal and comprises the Ni_3S_2 phase. The crystal lattice parameter of NiO decreases with an increase in SO_2 in the oxidizing atmosphere. The growth of scale on the nickel is, under all conditions, described by the parabolic law. The NiO layer grows at the scale-gas boundary. The higher rate of scale growth from NiO with SO_2 in the atmosphere may be explained by an increase in the con-

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KONEV, V. N., et al, Zashchita Metallov, Vol 6, no. 4, Jul-Aug 70, pp 448-450

centration of cation vacancies in the oxide on sulfur dissolution in it. Use is made of the relationship between the constant of the parabolic law K and P_{SO_2} in a mixture of SO_2+O_2 at P_{O_2} = constant obtained in earlier research to explain the formation of Ni_3S_2 phase which grows with a increase in P_{SO_2}. The results of this study suggest that sulfur is transfered toward the metal through the NiO phase by diffusion through the scale lattice rather than along the microcracks and pores. The disappearance of Ni_3S_2 in the scale when passing from 800 to 850°C is apparently related to a decrease in sulfur solubility in NiO with an increase in temperature. The maximum S solubility in NiO is at 800°C.

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1/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--THE ELECTROCARDIOGRAPHIC REFLECTION OF PREMEDICATION, INFUSION ANESTHESIA AND INTUBATION OF THE TRACHEA IN CHILDREN -U-

AUTHOR-(03)-BARKALAYA, B.B., LEYCHUK, N.N., STAZHADZE, L.L.

COUNTRY OF INFO--USSR

SOURCE--EKSPERIMENTAL'NAYA KHIRURGIYA I ANESTEZIOLOGIYA, 1970, NR 3, PP 66-69

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ELECTROCARDIOGRAPHY, ANESTHESIA, PEDIATRICS, ATROPINE, BARBITURATE, MUSCLE RELAXANT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1895 STEP NO--UR/0481/70/000/003/0066/0069

CIRC ACCESSION NO--AP0129248

UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129248

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS REPORT THE ELECTROCARDIOGRAPHIC DATA IN PREMEDICATION, INFUSION ANESTHESIA AND INTUBATION OF THE TRACHEA IN 107 CHILDREN, AGED 1 AND ONE HALF-14 YEARS. INTRAVENOUS INJECTION OF A MIXTURE OF PROMEDOL AND ATROPINE CAUSED SIGNIFICANT ELECTROCARDIOGRAPHIC SHIFTS, WHEREAS INTRAMUSCULAR PREMEDICATION PRACTICALLY PROVOKED NO SHIFTS IN THE ELECTROCARDIOGRAPHIC PATTERN. BARBITURATE INFUSION IS ACCOMPANIED BY INHIBITION OF THE MYOCARDIAL CONTRACTILE CAPACITY WITH MANIFESTATIONS OF DISTURBANCE OF THE ATRIOVENTRICULAR CONDUCTION. INFUSION NITROUS OXIDE PLUS ETHER PLUS OXYGEN ANESTHESIA CAUSES INSIGNIFICANT ELECTROCARDIOGRAPHIC SHIFTS IN THE STAGE OF EXCITATION WITH REVERSION TO INITIAL INDICES IN THE TOLERANT STAGE. INTUBATION OF THE TRACHEA IN THE TOLERANT STAGE AGAINST THE BACKGROUND OF TOTAL CURARIZATION PRODUCED NO SIGNIFICANT ELECTROCARDIOGRAPHIC ALTERATIONS. ENDOTRACHEAL INTUBATION IN I SUB3-II STAGE OF ANESTHESIA WITH THE USE OF DEPOLARIZING MUSCLE RELAXANTS WAS ATTENDED BY A SIGNIFICANT TACHYCARDIA AND VENTRICULAR EXTRASYSTOLE.

FACILITY: RESPUBLIKANSKAYA BOL'NITSA MINISTERSTVA ZDRAVOOKHRANENIYA ABKHAZSKOY SSSR, NAUCHNO-ISSLED. INSTITUT SKOROY POMOSHCHI IM. N. V. SKLIFOSOVSKOGO.

UNCLASSIFIED

Acc. Nr: AP0044596 Ref. Code: UR0497

PRIMARY SOURCE: Klinicheskaya Meditsina, 1970, Vol 48, Nr 1, PP 42-45

THE DYNAMICS OF ELECTROCARDIOGRAPHIC CHANGES IN PATIENTS OPERATED FOR SEVERE INJURY OF THE SKULL AND BRAIN

B. G. Zhilis, L. L. Stozhadze, B. V. Chetverushkin

Summary

The authors studied problems relevant to the influence of severe injury of the skull and brain on electrocardiographic indices in 87 patients. During the first hours there were noted a disturbance in the correlation between the duration of P—Q and R—R intervals. The notches on the ascending and descending curve of R wave, displacement of the S—T segment below the isoline in a smoothened T wave. Cardiac and narcotic preparations exerted no essential effect on the electrocardiogram. The greatest electrocardiographic changes appeared during manipulations on the dura mater and brain matter. In the postoperative period the lability of the heart to pharmacological agents was marked significantly. And there was a dependence between electrocardiographic changes and the localization of the pathological focus.

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REEL/FRAME 19771272

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USSR

UDC 534

STARZHINEKIY, V. M., Moscow

"Practical Method of Calculating Normal Forms in Nonlinear Oscillation Problems"

Moscow, Prikladnaya Matematika i Mekhanika, Vol 37, No 3, 1973, pp 407-413

Abstract: One of the unsolved problems of the application of normal forms to nonlinear oscillations is the derivation of the recurrent formulas for calculating the coefficients of normalizing transformations and normal forms. These formulas have been derived for the general case in oscillation theory (absence of elementary divisors which are not prime in the matrix of the linear part) on the basis of the A. D. Bryuno theorem [A. D. Bryuno, "Analytical Form of Differential Equations," Tr. Mosk. matem. o-va, Part I, Vol 25, 1971; Part II, Vol 26, 1972].

1/1

USSR UDC: 621.319.4(088.8)

PSHENICHNYY, I. S., BUDKIN, I. A., ALEKSEYEV, V. L., STAZHKOV, V. N., KORNEYEV, A. D., USPENSKIY, D. N.

"A Device for Testing Capacitors With Respect to Electric Parameters"

USSR Author's Certificate No 283416, filed 17 Apr 69, published 10 Dec 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V384 P)

Translation: This Author's Certificate introduces a device for testing capacitors with respect to electric parameters. The device consists of a vibration hopper with power supply, a transport mechanism, contact groups, and memory and sorting elements. As a distinguishing feature of the patent, automatic operation of the device is provided by making the memory element in the form of a light display panel with signal lamps in a number corresponding to the number of capacitors to be tested, and the analyzing element is a pointer with a photocell located above the lamps and kinematically coupled to the transport disc and providing electrical control of the sorting unit.

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USSR UDC: 621.319.4(088.8)

BUDKIN, I. A., ALEKSEYEV, V. L., STAZHKOV, V. N., KORNEYEV, A. D., USPENSKIY, D. N., KOSHURO, V. A., BUDIN, V. I.

"A Case for Flat Capacitors"

USSR Author's Certificate No 283414, filed 12 May 69, published 10 Dec 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V307 P)

Translation: This Author's Certificate introduces a casing for flat capacitors of fixed value. The cartridge is made in the form of a ruler with reinforcing ribs fitted with locators for the capacitor leads. As a distinguishing feature of the patent, in order to improve the reliability of locating the leads, the casing is equipped with H-shaped transverse guide bridges and longitudinally oriented lobes.

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USSR UDC: 539.385

VOROB'YEV, A. Z., OL'KIN, S. I., STEBENEV, V. N.

"Effect of Preliminary Creep on the Endurance of AK4-1-T1 Alloy"

Uch. zap. Tsentr. aerogidrodinam. in-ta (Scientific Notes of Central Aerohydrodynamics Institute), 1972, 3, No 2, pp 120-125 (from RZh-Mekhanika, No 9, Sep 72, Abstract No 9V870)

Translation: The authors studied the mechanism of the influence of preliminary creep on the fatigue characteristics of notched specimens of AK4-1-T1 alloy. Selected from among the set of creep components was the effect caused by temperature action. The tests were done on solid cylindrical specimens with circular boring, and on flat specimens with a central hole. The specimens were preheated for a long period with and without loading. The fatigue test results on specimens with stress concentrators at temperatures of 150 and 175°C showed different qualitative effects of preliminary creep action. It is shown that for structural elements working on tension, preliminary creep has a favorable effect, producing cold hardening of the surface layers of the metal in the zone of stress concentration. Under a compressive load, the effect of creep is harmful, accelerating destruction under fatigue conditions. G. P. Mel'nikov.
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1/2 017 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--STABILITY OF A SOLIUTIZON SOLUTION -U-

AUTHOR--STEBLETSOVA, ZH.D.

COUNTRY OF INFO--USSR

SOURCE--KHIM. FARM. ZH. 1970, 4(2), 43-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CHEMICAL STABILITY, SOLID SOLUTION, SPECTROSCOPIC ANALYSIS, THIOL, UV SPECTRUM, CHEMICAL STABILIZER, BENZENE DERIVATIVE, AMINE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0537 STEP NO--UR/0450/70/004/002/0043/0046

CIRC ACCESSION NO--AP0113428

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0113428

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SPECTROPHOTOMETRIC PROCEDURE WAS FIRST DEVELOPED FOR DETG. SOLIUTIZON P HO SUB3 SCM SUB2 NHC SU86 H SU84 CH:NNHCSNH SUB2 (I). THE UV SPECTRUM OF I HAD 2 MAX., ONE AT 232 M MU (E 1PERCENT OVER 1CM 353.16) AND THE OTHER AT 343 M MU. TO DET. I, DISSOLVE A SAMPLE (0.1-0.15 G) IN WATER, AGITATE 3 MIN, AND DIL. TO 100 ML. TAKE 10 ML OF THIS SOLN., DIL. TO 1000 TIMES, AND MEASURE THE ABSORPTION AT 232 M MU AGAINST WATER. THE RESULTS RANGED FROM 98.4 TO 102.5PERCENT (MEAN 100.38PERCENT). THE EFFECT OF PH ON STABILITY OF I WAS TEN EXAMD. TO FOLLOW CHANGES ON STORAGE, ASCENDING PAPER CHROMATOG. WAS USED ON THE S BRAND PAPER IN THE MEOHACOH (9:1) SYSTEM. SPOTS WERE LOCATED BY UV LIGHT. FRESHLY PREPD. I SOLNS. GAVE 1 SPOT (R SUBF 0.14), AND THOSE STORED FOR SEVERAL DAYS GAVE AN ADDNS. SPOT (R SUBF 0.38). SOLNS. OF PH 7.0-7.2 WERE STABLE FOR SEVERAL MONTHS. THE FOLLOWING PROCEDURE IS RECOMMENDED FOR PREPG. STABLE 2 AND 3PERCENT SOLNS.: DISSOLVE 20-30 G I IN A SMALL AMT. OF REDISTD. AND FRESHLY BOILED WATER AT 30PERCENT, ADD 10 ML 0.1 N NAOH, 160-80 ML ETOH, AND DIL. TO 1 L. FILTER THE SOLN. THROUGH A GLASS FILTER AND PLACE IN AMPULS. ETOH WAS THE BEST STABILIZER; OTHERS SUCH AS PHCH SUB2 OH, PHOH, CRESOL, NIPAGIN, NIPASOL, AND CHLORETONE WERE INCOMPATIBLE WITH I. FACILITY: L'VOV. MED. INST., LVOV, USSR.

UNCLASSIFIED

USSR

UDC: 616.988.75(A2)-036.22(474.5)

RATMANAYTE, L. M., STEBLIVSKIY, P. P., LAZAREV, O. P., ZABOLOTNOV, V. I., and KSHIVITSKAS, V. S., Vil'nius, Institute of Epidemiology, Microbiology, and Hygiene

"Characteristics of Immunological Shifts Among the Population of the Lithuanian SSR due to the Hong Kong Influenza Epidemic"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, Vol 48, No 6, Jun 71, pp 104-106

Abstract: The correlation between the intensity of influenza and the level of antihemagglutinins in the blood serum was studied. The 1969 epidemic, caused by influenza virus A2 Hong Kong 1/68, began in the second week of January and continued for 2 months. It was severe and distinguished by a large number of respiratory complications, surpassing in mass morbidity all of the influenza epidemics during the preceding decade. Serological investigation of 143 sera from members of organized collectives and 110 sera from the rest of the population, collected during November 1968, established the presence of antihemagglutinins only in a small number of sera with mean geometric titers of 1:14.8 and 1:9.8, respectively. During the epidemic the appearance of antihemagglutinins was accompanied by an increase of antibodies to virus A2-151/65.

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USSR

RATMANAYTE, L. M., et al, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, Vol 48, No 6, Jun 71, pp 104-106

This may be expalined as an anamnesticic response of the organism to a new virus variant. Serological investigations of sera obtained during the months of October-November, that is 8-9 months after the epidemic, established a low level of antihemagglutinins to virus A2 Hong Kong 1/68, with only 31.6% of the sera containing antibodies in a titer of 1:40 and higher. Higher titers of antibodies to virus A2 151/65 and V Dushanbe-66 were established in the sera. In all of the groups of sera studied, in the postepidemic period antihemagglutinins to the new antigenic variant of the virus were observed less often and also in titers lower than those to the preceding A2 virus variant.

2/2

USSR

UDC 621.791.856:669.715

RABKIN, B. M., IVANOVA, O. N., STEBLOVSKIY, B. A., and BUDNIK, V. P.

"Straight-Polarized DC Welding of Aluminum Alloys"

Kiev, Avtomaticheskaya Svarka, No 3, Mar 71, pp 71-72

Abstract: Welding with straight polarized direct current is of significant interest from the point of view of increasing the fusion capacity of the arc and the possibility of forcing the welding conditions. It is necessary to remove sufficient oxides from the weld metal to obtain a high-quality joint during this welding process. This paper contains the results of an effort at the Institute of Electric Welding to achieve these goals when welding aluminum alloys by a straight polarized DC arc. Helium, argon, and their mixtures were used as shielding gases. It was found that straight polarized DC welding of aluminum alloys in helium without filler wire gives an even, bright surface. Good protection of the weld metal was insured by A-954 and A-1272 torches. High-quality welds were obtained with aluminum alloys 3, 8, 10, 15, and 20 mm thick in one pass without toe dressing.

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USSR

UDC: 669.1/.8.042.62

MISHCHENKO, V. D., STEBLOVSKIY, I. A., STETSENKO, V. I.

"Dosing of Liquid Metal During Pouring of Ingots"

MGD v Metallurgii i Liteyn. Proiz-ve [MHD in Metallurgy and Foundry Production -- Collection of Works], Kiev, 1972, pp 217-220 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G149, by G. Svodtseva).

Translation: A combined automated foundry system, consisting of an electromagnetic pump, liquid metal level measurer for the crystallizer, metal level regulator and magnetic amplifier, has passed industrial testing in the pouring of ingots. The level was maintained automatically throughout the entire casting period. Its fluctuations did not exceed ±1.5 mm. Pouring of ingots using the automatic system allowed a decrease in crystallizer height of 35 mm (MA8 alloy, ingot diameter 370 mm), leading to a reduction in cavity depth to 50 mm. 3 figures.

1/1

USSR

UDC 8.74

ANAN'YEVSKIY, S. A., STEBLYANKO, V. G.

"Use of ALGOL to Simulate Microprograms"

Vestn. Kiev. politekhn. in-ta. Ser. avtomatiki i elektropriborostr. (Vestnik of Kiev Polytechnic Institute. Automation and Electronic Instrument Making Series), 1972, No 9, pp 53-55 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V556)

Translation: Some problems of algorithmic simulation of digital devices are discussed. Data are presented on the possibilities of using algorithmic languages for these purposes.

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STEBLYANKO, V.

Meteorology

Source: JPRS # 58025
19 Jan 73

WORLD METEOROLOGICAL CENTER

[Article by L. H. Miridonov; Moscow, Meteorologiya i Gidrologiya, Russian, No 11, 1972, pp 106-107]

On 29 May, the Director of the Antarctic Institute of Chile Doctor Maria Pablecz visited the USSR Hydrometeorological Center. He was familiarized with the structure and problems of the Center and examined the computer [illegible]

A discussion with representatives of the Swedish-Finnish company Valmet, A. Krank and E. Vivekki was held at the USSR Hydrometeorological Center on 9 June. The guests were familiarized with the activity of the Center, and they, in turn, told about the product manufactured by the company and its use by the meteorological services of Finland and Sweden.

On 12 June of this year, a meeting was held at the USSR Hydrometeorological Center with a representative of the Telefunken Company, Yu. Gayer. He was familiarized with the communication system of the Center. Yu. Gayer told about the equipment built by his company and its use for meteorological data gathering and processing.

From 12 to 16 June a meeting was held at the Hydrometeorological Center of the representatives of the meteorological services of the socialist countries on the development of synoptic and physical-statistical methods of long-range forecasting of temperature, precipitation and wind. The meeting was participated in by the following scientists: [illegible] (USSR), H. Vodzin'ska (Poland), G. Koppani (Hungary), Kh. Kubash (German Democratic Republic), [illegible] (USSR), V. Steblyanko (USSR), L. Kakhen (Romania) and [illegible] Tsvetkov (Bulgaria). The results of the research work with respect to this topic were discussed, and a coordinated program for further studies was developed.

On 14 June, specialists from the Democratic Republic of Viet Nam Le [illegible], Vu Kuang Khung, Nguen Tkhi Luan completed their apprenticeship at the USSR Hydrometeorological Center.

Specialist of the meteorological service of the German Democratic Republic Doctor P. Vokler was at the USSR Hydrometeorological Center from 15 to [illegible] June. He was interested in the problems of calculating the vertical velocities and the amount of precipitation for the case of unstable stratification.

Microbiology

USSR
USSR

UDC 576.8.097.22+615.33

STEBLYUK, P. N., Department of Microbiology, Zaporozh'ye Medical Institute

"Ribonuclease-Enhanced Susceptibility of Pathogenic Microorganisms to Antibiotics"

Kiev, Vrachebnoye Delo, No 10, 1973, pp 150-152

Abstract: In vitro studies conducted with bacteria resistant to streptomycin (SM) showed that ribonuclease decreased the concentration of SM required for a bacteriostatic effect eight-fold in the case of Staphylocci, six-fold in the case of E. coli, five-fold in the case of Pseudomonas, and four-fold for p Proteus. In vivo experiments with white mice confirmed the in vitro studies. Results obtained with patients suffering from suppurative infections with these microbes and treated with an SM-ribonuclease combination yielded promising results.

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USSR

STECHKIN, B. S.

"Monotonic Subsequences in the Permutation of n Natural Numbers"

Mat. Zametki [Mathematical Essays], 1973, 13, No 4, pp 511-514 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V335)

Translation: The following problem is studied. Let S_n be a symmetrical group of order n. In group S_n, function $l_n(\sigma)$ is defined as follows. For arbitrary permutation $\sigma \in S_n$, the set of all possible subsequences composed of indices from the lower row of permutation σ is studied, when $l_n(\sigma)$ is equal to the number of terms in the maximum monotonic subsequence. We know that $\min_{\sigma \in S_n} l_n(\sigma) = [\sqrt{n}] + \varepsilon_n$, where $\varepsilon_n = 0$, if $n = m^2$, and $\varepsilon_n = 1$ if $n \neq m^2$.

USSR

STECHKIN, B. S., Mat. Zametki, 1973, 13, No 4, pp 511-514

This work studies the mean value of $l_n(\sigma)$ in S_n and produces a top estimate.

Theorem. Let $M(l_n(\sigma))$ be the mean value of function $l_n(\sigma)$ in S_n. Then for all n, with the exception of a finite number, the inequality below is fulfilled:

$$M(l_n(\sigma)) < 1\sqrt{n}.$$

O. Levin

2/2

Miscellaneous

USSR UDC 542.67:546.217

KIRSH, A. A., STECHKINA, I. B., and FUKS, N. A., Physical-Chemical Institute imeni L. Ya. Karpov, Moscow

"Gas Flow in Filters Consisting of Polydispersed Ultrafine Fibers"

Moscow, Kolloidnyy Zhurnal, Vol 35, No 4, Jul-Aug 73, pp 670-675

Abstract: Resistance of filters consisting of polydispersed ultrafine fibers has been determined at a pressure range from 760 to 4 torr. A semiempirical formula has been proposed for the calculation of the resistance of these filters as a function of Knudsen number, allowing for the density of their packing, degree of the nonhomogeneity of their structure and the polydispersion of the fibers. It has been established that polydispersion of the filter fibers has no effect on the pressure drop at the filter, expressed as a function of Kn in spite of the fact that thick and fine fibers have basically different flow regimens.

1/1

USSR S UDC 541.182/3:542.67

STECHKINA, I. B., KIRSH, A. A., and FUKS, N. A., Scientific Research Physico-Chemical Institute imeni L. Ya. Karpov, Moscow, State Committee for Chemistry

"Effect of Inertia on the Coefficient of Capture of Aerosol Particles on Cylinders at Low Stokes Numbers"

Moscow, Kolloidnyy Zhurnal, Vol 32, No 3, May-Jun 1970, p 467

Abstract: In previous work by the authors (Kolloidn. Zh., 31, 121, 1969 - see also S. V. Dawson, Transactions of the 9th AEC Cleaning Conference, Boston, Sep 66, p 647) the conclusion was reached that inertia under all conditions increases the coefficient of capture of aerosol particles on cylinders oriented in a direction normal to the flow of the particles. Subsequent calculations showed that this conclusion is not correct; at low Stokes numbers, inertia reduces rather than increases the coefficient of capture. This is due to the fact that inertial displacement of particles in the line of flow during approach to the cylinder increases capture, whereas inertial displacement away from the cylinder after the flow has passed around it has the opposite effect. The result obtained is

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USSR

STECHKINA, I. B., et al, Kolloidnyy Zhurnal, Vol 32, No 3, May-Jun 1970, p 467

of purely theoretical value, because it applies only to particles with Stokes numbers which are so small that the effect of inertia can be disregarded.

2/2

1/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EFFECT OF INERTIA ON THE CAPTURE COEFFICIENT OF AEROSOL PARTICLES ON CYLINDERS AT LOW STOKES NUMBERS -U-

AUTHOR-(03)-STECHKINA, I.B., KIRSH, A.A., FUKS, N.A.

COUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 3 PP 467

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--AEROSOL, PARTICLE CAPTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/0415 STEP NO--UR/0069/70/032/003/0467/0467

CIRC ACCESSION NO--AP0122595

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0122595

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AS SHOWN BY CALCULATIONS, AT VERY LOW STOKES NUMBERS INERTIA DOES NOT INCREASE (AS IS USUALLY BELIEVED), BUT RATHER DECREASES THE CAPTURE COEFFICIENT OF AEROSOL PARTICLES OF FINITE SIZE ON A CYLINDER ORIENTED NORMAL TO THE FLOW. FACILITY: FIZIKO-KHIMICHESKIY INSTITUT IM. L. YA. KARPOVA MOSCOW.

UNCLASSIFIED

USSR

CHEBURKIN, A. V., STEFANI, D. V., LEBEDEVA, N. N., YESIPENKO, N. V., and IL'CHENKO, T. P.

"Immunoglobulins in Nasal Secretions of Small Children"

Vopr. Okhrany Materinstva i Detstva (Problems of the Protection of Motherhood and Childhood), 1973, No 7, pp 53-57 (from RZh - Biologicheskaya Khimiya, No 22, Nov 73, Abstract No 1704)

Translation: By the method of simple radial immunodiffusion it is not possible to determine secretory immunoglobulins in the washout of nasal secretions of one month old babies. After the age of 2 months a small quantity of immunoglobulins of the class A and G are found. From the six months on -- the level of IgA is increased, while IgG remains quite low, increasing slightly with age. The immunoglobulins of the class M in nasal secretions are absent in small babies. High individual fluctuations of IgA may be explained by the lability of the system of local immunity. The results obtained support the point of view of the local synthesis of class A immunoglobulins.

1/1

1/2 006 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EXPERIMENTAL USE OF SODIUM SILICATES IN FOODS -U-

AUTHOR-(02)-ALEKSEYEV, N., STEFANOV, A.

COUNTRY OF INFO--USSR

SOURCE--MYAS. IND. SSSR 1970, 41(1), 33-4

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SODIUM SILICATE, FOOD INDUSTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0641 STEP NO--UR/9086/70/041/001/0033/0034

CIRC ACCESSION NO--AP0121308

UNCLASSIFIED

2/2 006 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121308

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE APPLICABILITY OF THE EXPERIENCE WITH NA SILICATES IN THE MEAT INDUSTRY ARE BRIEFLY REVIEWED. SEVERAL PRACTICAL EXAMPLES ARE GIVEN.

MYASOKOMB., MOSCOW, USSR.

FACILITY: MUSK.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203130007-3"

Public Health, Hygiene and Sanitation

USSR

UDC 613.647:621.313.3

STEFANOV, B., and SOLAKOVA, S., Institute of Hygiene and Epidemiology, Varna, Bulgaria

"Changes in Body Functional State Among Workers Servicing High-Frequency Current Generators"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, 1973, pp 44-45

Abstract: Relationships between mental and autonomous body functions and time of service of 22-43 year old males working 4-5 hours per day in the presence of electromagnetic fields produced by 60-300 kHz 10-125 kw generators were assessed. Mental capacity was not affected. Changes in autonomous body functions were found to be correlated with time of service. Forehead and chest skin temperature increased, while systolic and diastolic pressure, pulse, and blood cholinesterase activity decreased with time of service. Presence of such changes, complaints of general weakness, memory loss, and heightened perspiration, and pronounced symptoms of tremor, dermographia, acrocyanosis, and hyperhydrosis, indicate that high-frequency generator components are not shielded adequately.

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USSR

PODKAZHANSKIY, A., and STEFANOV, G., Engineers at the Laboratory for Underwater Research Techniques of the Institute of Oceanology, Academy of Sciences USSR

"Four Thousand Hours Under Water"

Moscow, Leninskoye Znamya, 23 Jun 72, p 4

Translation: With the passage of time the traditional methods of studying the world ocean from the surface have become an obstacle to the discovery of its secrets, especially to what takes place under water. Oceanologists must directly observe the biological, chemical, and physical processes taking place in water strata and on the ocean floor. Fundamentally new techniques were needed.

In fact, the diver aquanaut must pay for dozens of minutes of work in the depth with tiresome hours of decompression. The rate of his rise to the surface is severely restricted by the slow process of elimination of inert gases of the respiratory mixture (nitrogen, helium, or hydrogen) from the organism. Under the effect of the increased pressure, inert gas dissolves in the blood up to a certain limit (this is called the saturation effect).

USSR

PODRAZHANSKIY, A., and STEFANOV, G., Leninskoye Znamya, 23 Jun 72, p 4

A too rapid rise is fraught with serious danger for the aquanaut, i.e., decompression or caisson sickness. Inert gas will begin to be released in the form of bubbles — emboli — capable of occluding blood vessels.

The clear idea of the causes of "blood boiling" and of the essence of the saturation effect led scientists to the idea of an underwater laboratory house. Pressure inside such an installation is equal to external pressure.

The development of the design of the underwater house was entrusted to scientists and engineers at the Laboratory for Underwater Research Techniques of the Institute of Oceanology imeni P. Shirshov, Academy of Sciences USSR. The installation of this facility was completed in the southern department of this institute, i.e., on the shore of the Black Sea near the resort city of Gelendzhik in March 1968.

The first year of operation of the underwater house, which was named Chernomor, became the year of its technical improvement. Four testing and five scientific crews discovered shortcomings in the laboratory's devices. Fall and winter were spent in strenuous work. Chernomor-2 is its result.

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USSR

PODRAZHANSKIY, A., and STEFANOV, G., Leninskoye Znamya, 23 Jun 72, p 4

The design solutions for re-equipping the underwater laboratory were based on the principles of its maximum autonomy both during submersion-surfacing and operation.

The onboard stocks of respiratory mixture components (75 cubic meters of oxygen and 150 cubic meters of nitrogen) and of compressed air for technical purposes (240 cubic meters) make Chernomor-2 (installed at a depth of 25 to 30 meters) independent of provision ships and coastal services for 15 days; in addition, the emergency reserve of electric power (84 kwh) is sufficient for an average of 7 days.

The strong frame of the underwater house is a cylinder placed on a support, i.e., a keelblock. On the right and left boards and under the upper deck there are two groups of water ballast tanks. Their volume and successful arrangement provide good buoyancy and stability for Chernomor-2.

The laboratory's autonomy is also evident from the fact that its placement on the bottom and rise to the surface require no equipment. The crew handles these operations. It controls the flooding and blowing of water ballast tanks.
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USSR

PODRAZHANSKIY, A., and STEFANOV, G., Leninskoye Znamya, 23 Jun 72, p 4

Aquanauts have to live and work in a room with a usable capacity of only about 16 square meters. A great deal of time was spent planning the internal compartments. It was not a simple task to make an 8-meter long cylinder with a diameter of 2.9 meters convenient both for work and rest. The internal room is conditionally divided into three compartments: diving, living, and sanitary compartments.

A deck-mounted airlock for entry into the submerged laboratory, a divers passageway, an installation hatch, a desk for controlling and monitoring the airlock's pneumatic systems, and shelving for storing diving gear were installed in the diving compartment. A telephone was also installed.

The living compartment is divided into sleeping and laboratory zones. In the sleeping zone there are four beds (in two tiers on the right and left sides) and lockers and a closet are located near the end bulkhead.

Finally, the sanitary compartment is equipped with a cold- and hot-water shower and a toilet.

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USSR

PODRAZHANSKIY, A., and STEFANOV, G., Leninskoye Znamya, 23 Jun 72, p 4

Chernomor successfully passed the test of 4 years of operation. Ten testing (from 1 to 4 days) and nine scientific crews (from 7 to 52 days) spent about 4,000 hours in the laboratory.

Investigation of shelf dynamics were the main aim of the geologists. Aquanauts engaged in the preparation of test grounds. They hammered in benchmarks, i.e., metal bars with divisions which make it possible to judge the soil alluviation level, layed out marked material, i.e., luminophore-stained rubble and sand, and installed suspension traps. During the last 52-day experiment the researchers obtained vast amounts of data.

Whereas geologists and biologists mastered primarily the surface of the floor, hydrocopticians studied all the water strata, i.e., from the floor to the surface. A hydrophysical mast with illumination, swell, and wind speed sensors was installed at a distance of 30 meters from Chernomor-2. The following tasks was set: to obtain experimental data on the relationship between the characteristics of surface swell and the light conditions of the depths.

The medical and physiological program consisted of measuring the volume of pulmonary ventilation, the aquanauts' body temperature, and the bioelectrical

USSR

PODRAZHANSKIY, A., and STEFANOV, G., Leninskoye Znamya, 23 Jun 72, p 4

activity of the heart, brain, and muscles. A great deal of attention was paid to biochemical blood analysis.

The Institute of Oceanology developed a long-term scientific program for a planned mastering of the continental shelf. Its first stage is the study of depths up to 30-40 meters, in other words, the off-shore zone where waves are formed. The designing of a new underwater laboratory, Chernomor-3, has already begun. It is designed for a depth of 100 meters. A very wide range of problems has been set for physiologists in connection with the changeover to great depths and the use of helium and oxygen respiratory mixtures. Work on the installation of a coastal hyperbaric complex has begun in the institute's southern department. Submersion to a depth of more than 350 meters is to be simulated in its chambers.

Man is embarking on the mastering of ocean wealth, primarily of the continental shelf which extends up to depths of 200 to 300 meters.

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USSR

UDC 669.1:338

ZHADAN, V. T., and STEFANOV, V. Ye.

"The Economic Efficiency of Rolling Channels on a Structural Mill by the Gradual Bending of Flanges Method"

Moscow, Plasticheskaya Deformatsiya Metallov i Splavov, "Metallurgiya" Publishing House, No 64, 1970, pp 87-91

Translation: Use of the gradual flange bending method in rolling channels at structural mill 650 of the Azovstal' Plant resulted in a reduction in the depth of groove incisions in rolls and the size of the initial diameters of the roll barrels, an increase in their resistance to wear, replacement of steel rolls on the precleaning stand with a trio of cast iron ones, rolling in a negative field of tolerances and decreasing the average mass of a running meter of profile, decreasing the width of the beads and locating the doubler-passes, etc. All this made it possible to reduce expenditures for rolls and lower the average running meter of profile's mass by one percent, which produced an annual economic benefit of 474,960 rubles in rolling about 150,000 tons of channels. One table and four bibliographic entries..

1/1

USSR

UDC: 547.94

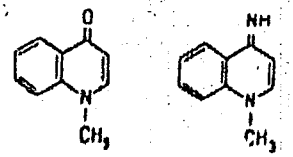
AVRAMOVA, B., ZHELYAZKOV, L., DALEVA, L., STEFANOVA, D., Scientific Research Chemico Pharmaceutical Institute, Sofia

"Biologically Active 1-Substituted-4-Quinolonimines. I."

Tashkent, Khimiya Prirodnykh Soyedineniy, No 1, 1970, pp 98-101

Abstract: Echinopsine-1-methyl-4-quinolone (I) and its structural analog echinopsidine (II) both show physiological activity, but in different ways.

(a)



I II

It is assumed that the difference in the biological effects of these two compounds are due to the structural difference -- the substitutent in the fourth position (=O or the NH group). New 1-substituted quinolonimines which may be considered structural analogs of echinopsidine were synthesized by a four-stage process similar to that used for synthesis of echinopsine:

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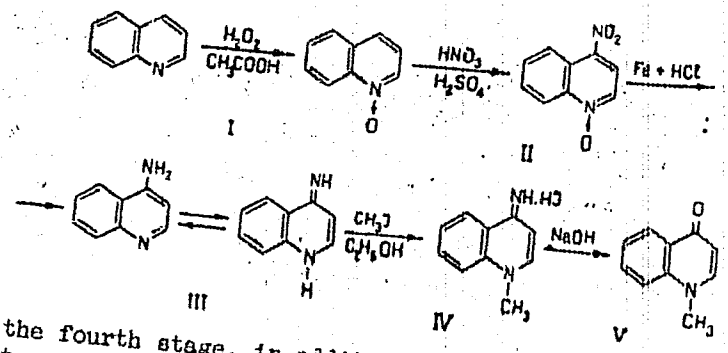
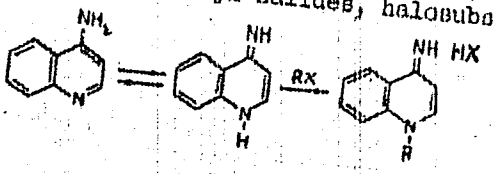
AVRAMOVA, B., et al, Tashkent, Khimiya Prirodnykh Soyedineniy, No 1, 1970, pp 98-101

(b)



except that on the fourth stage, in addition to the methylating agent, 4-aminoquinoline is interacted with various alkyl of aralkyl halides, halosubstituted ketones or other alkylating agents:

(c)



2/3

USSR

AVRAMOVA, B., et al, Tashkent, Khimiya Prirodnykh Soyedinenii, No 1, 1970, pp 98-101

The reaction was carried out with boiling 4-aminoquinoline together with an excess of the appropriate alkylating agent in a suitable solvent. Reaction time varies from 6 to 25 hours. All the resultant quinolonimines were found to be biologically active with respect to the central nervous system, most of them having centrally stimulating and antidepressant properties. The strongest antidepressant action is shown by echinopsidine, the first member of the homologic series ($R = CH_3$). As the carbon chain associated with the nitrogen atom increases in length to four atoms, the antidepressant property decreases, and there is an increase in non-specific stimulation of the central nervous system. Two aromatic derivatives showed elements of antidepressant activity, though weaker than in echinopsidine, and the double bond in the substitutent seems to lead to a tranquilizing effect. Larger doses of the compounds produce a curare-like myorelaxant effect which increases in strength when the methyl group associated with the nitrogen atom is replaced by heavier radicals. Carbonyl groups in the molecule reduce the myorelaxant effect. With respect to anticholinesterase activity, quinolonimines are much more active than echinopsine, but less active than galanthamine. The quinolonimines are more biologically active and more toxic than echinopsine.

3/3

USSR

SHUL'TS, M. M., and STEFANOVA, O. K. UDC 541.13

"Electrode Properties of Ion Exchange Membranes and Their Mechanism of Charge Transfer. I. Regularities Corresponding to the Predominance of One of the Possible Transfer Mechanisms in a Membrane"

Leningrad, Vestnik Leningradskogo Universiteta, Seriya Fizika i Khimiya, No 1, Feb 71, pp 22-29

Abstract: Certain counterions in an ion exchange membrane may in the general case be found in different energy states. This must, in principle, affect the ability of ions to migrate through the ionite, and sufficiently strong energy differentiation may lead not only to a quantitative difference in their kinetic characteristics, but also to a difference in the mechanisms involved in the transfer effected by these ions. This may also be frue for the electrode properties of ion exchange membranes, particularly the specificity constants of their electrode functions. The present series of articles examines this question. Systems containing no more than two kinds of counterions are examined. The galvanic cell incorporating an ion exchange membrane is constructed according to the scheme

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USSR

SHUL'TS, M. M. and STEFANOVA, O. K., Vestnik Leningradskogo Universiteta, Seriya Fizika i Khimiya, No 1, Feb 71, pp 22-29

$$X\left|\begin{array}{l}\text{solution (1)}\\ LX,\ MX\end{array}\right|\begin{array}{l}(a)\\ \text{membrane}\\ (b)\end{array}\left|\begin{array}{l}\text{solution (2)}\\ LX,\ MX\end{array}\right|X, \qquad (1)$$

where X designates electrodes acting reversibly with respect to ions X^- in solutions of electrolytes LX and MX.

The purpose of the present article is to find the regularities which control the electrode properties of a membrane, subject to different charge transfer mechanisms. These mechanisms may be the solvation, vacancy or croquet mechanism. The form of the dependence of the emf of galvanic cell (1) on the activities of the electrolytes in its solutions is determined for the case where one of the above charge transfer mechanisms predominates in the membrane. The next article in the series will examine the expression for the emf corresponding to a mixed transfer mechanism.

2/2

UNCLASSIFIED

TITLE--IMPORTANCE OF THERMODYNAMIC DATA FOR SOLVING PROBLEMS IN BLAST-FURNACE PRODUCTION -U-

PROCESSING DATE--18SEP70

AUTHOR-(02)-STEFANOVICH, M.A., SIBAGTULLIN, S.K.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 213-15

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--THERMODYNAMICS, BLAST FURNACE, INDUSTRIAL PRODUCTION, PIG IRON

CONTROL MARKING--NO RESTRICTIONS

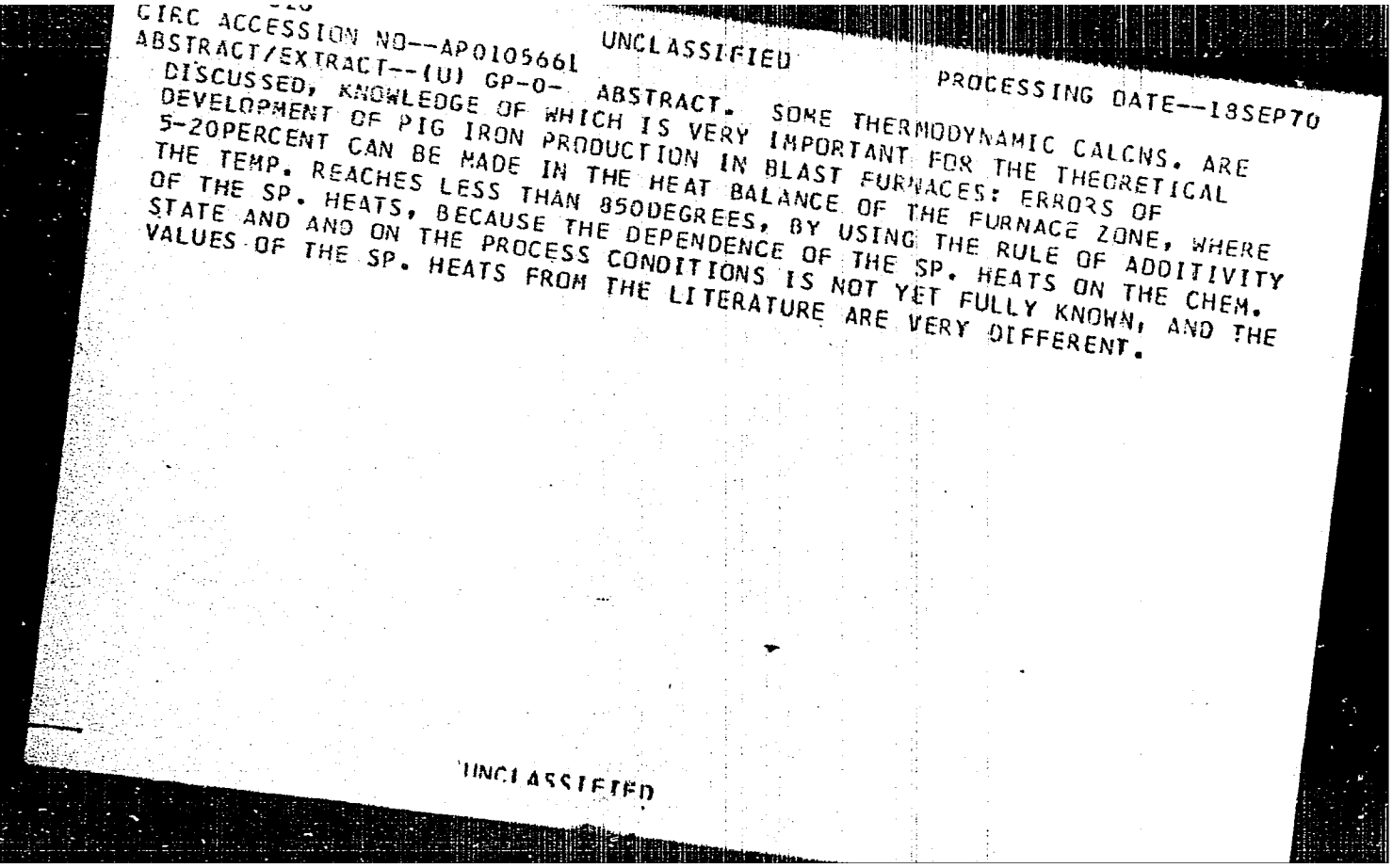
DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0685

STEP NO--UR/0076/70/044/001/0213/0215

CIRC ACCESSION NO--AP0105661

UNCLASSIFIED



CIRC ACCESSION NO--AP0105661 UNCLASSIFIED PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOME THERMODYNAMIC CALCNS. ARE DISCUSSED, KNOWLEDGE OF WHICH IS VERY IMPORTANT FOR THE THEORETICAL DEVELOPMENT OF PIG IRON PRODUCTION IN BLAST FURNACES: ERRORS OF 5-20PERCENT CAN BE MADE IN THE HEAT BALANCE OF THE FURNACE ZONE, WHERE THE TEMP. REACHES LESS THAN 850DEGREES, BY USING THE RULE OF ADDITIVITY OF THE SP. HEATS, BECAUSE THE DEPENDENCE OF THE SP. HEATS ON THE CHEM. STATE AND AND ON THE PROCESS CONDITIONS IS NOT YET FULLY KNOWN, AND THE VALUES OF THE SP. HEATS FROM THE LITERATURE ARE VERY DIFFERENT.

UNCLASSIFIED

USSR UDC 678.743.41:541.515.7/01:53

VILENSKIY, A. I., VIRLICH, E. E., STEFANOVICH, N. N., RADISIC, V. A., VLADYKINA, T. N., and KROTOVA, N. A.

"The Effect of Peroxide Radicals on the Adhesive Properties of Fluoroplast-4"

Moscow, Plasticheskiye Massy, No 10, 1971, pp 43-45

Abstract: Results are reported of the study of the adhesive activity of polytetrafluoroethylene (PTFE) as a function of the concentration of peroxide radicals fenerated during the treatment of PTFE in silent discharge. It was determined that current density has no effect on the maximum concentration of free radicals; however, it does shorten the process. Thermal treatment of the activated PTFE films leads to the formation of polar -CO and -C:C-groups which lead to high adhesive strength. In such thermally treated samples hydrogen bonds may form between the C:O groups of the films and OH groups of the epoxy resin. The experiments have shown that the high adhesive strength of the fluoroplast-4 activated in silent discharge is determined by stable peroxide radicals formed during the activation, which interact with the adhesive forming hydrogen bonds of an electrostatic character.

1/1

USSR

BABAYEVA, A. Kh.; SULTANOV, F. F.; SEREBRYAKOV, Ye. P.; TODRIS, I. I.; STEFANOVSKAYA, N. V.; YeLDASHEV, A. Ye.

Ashkhabad, Voprosy fiziologicheskikh mekhanizmov adaptatsii organizma k zharkomu klimatu, (Aspects of the Physiological Mechanisms of Adaptation of the Organism to a Warm Climate), "Ylym," 1970, 172 pp

Translation:

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Some Questions of water-salt balance	18
The function of the kidneys in reaction to high temperature	60
Oxidative phosphorylation and the role of kidney mitochondria in the regulation of glycolysis	81
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USSR

BABAYEVA, A. Kh., et al, Voprosy fiziologicheskikh mekhanizmov adaptatsii organizma k znachnomu klimatu, "Ylym," 1970, 172 pp

2/2

ACC. Nr:
AP0045529

Abstracting Service: © BIOLOGICAL ABST. 4-70 Ref. Code: UR0455

80816v Kinetics of mass transfer during the fractional distillation of a methanol–ethanol–water mixture. Stefanovskaya, N. V.; Planovskii, A. N.; Orlov, B. N. (Moskovskii Inst. Khim. Mashinostr., Moscow, USSR). *Teor. Osn. Khim. Tekhnol.* 1970, 4(1), 56–62 (Russ). Mass transfer was studied during the fractional distn. of a MeOH–EtOH–H_2O mixt. on a 6-plate column, diam. 170 mm, at 1 atm. A thorough mixing of the liq. on 1 plate as well as the equil. between the liq. and the vapor at the phase interface were assumed. The mass-transfer coeff. (k) of an individual component did not depend on the concn. of other components. The inverse $1/k$ depended linearly on the inverse of the slope of the resp. distn. line. Slopes of this linear dependence were the same for all components and in the whole concn. range.

Karel A. Hlavaty

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REEL/FRAME
19780497

7

USSR

MOSKALEV, I. N., PETROV, V. P., STEFANOVSKIY, A. M.

"Use of Open, Barrel-Shaped Resonators for the Study of a Plasma"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, August 1970, pp 1692-1700

Abstract: Simple waveguides with which it is possible, with satisfactory accuracy, to determine the natural frequencies of open, barrel-shaped resonators are described. In addition, results of a more rigorous theory, based on the solution of a wave equation which takes the boundary conditions into account, are obtained. Theoretical conclusions are compared with experimentally measured distributions of the fields in a resonator operating in the 8-mm band. Data on the measurement of the density of the plasma obtained with these resonators agree with the results of probe measurements.

The article includes 20 equations, 6 figures, and one table. There are three references.

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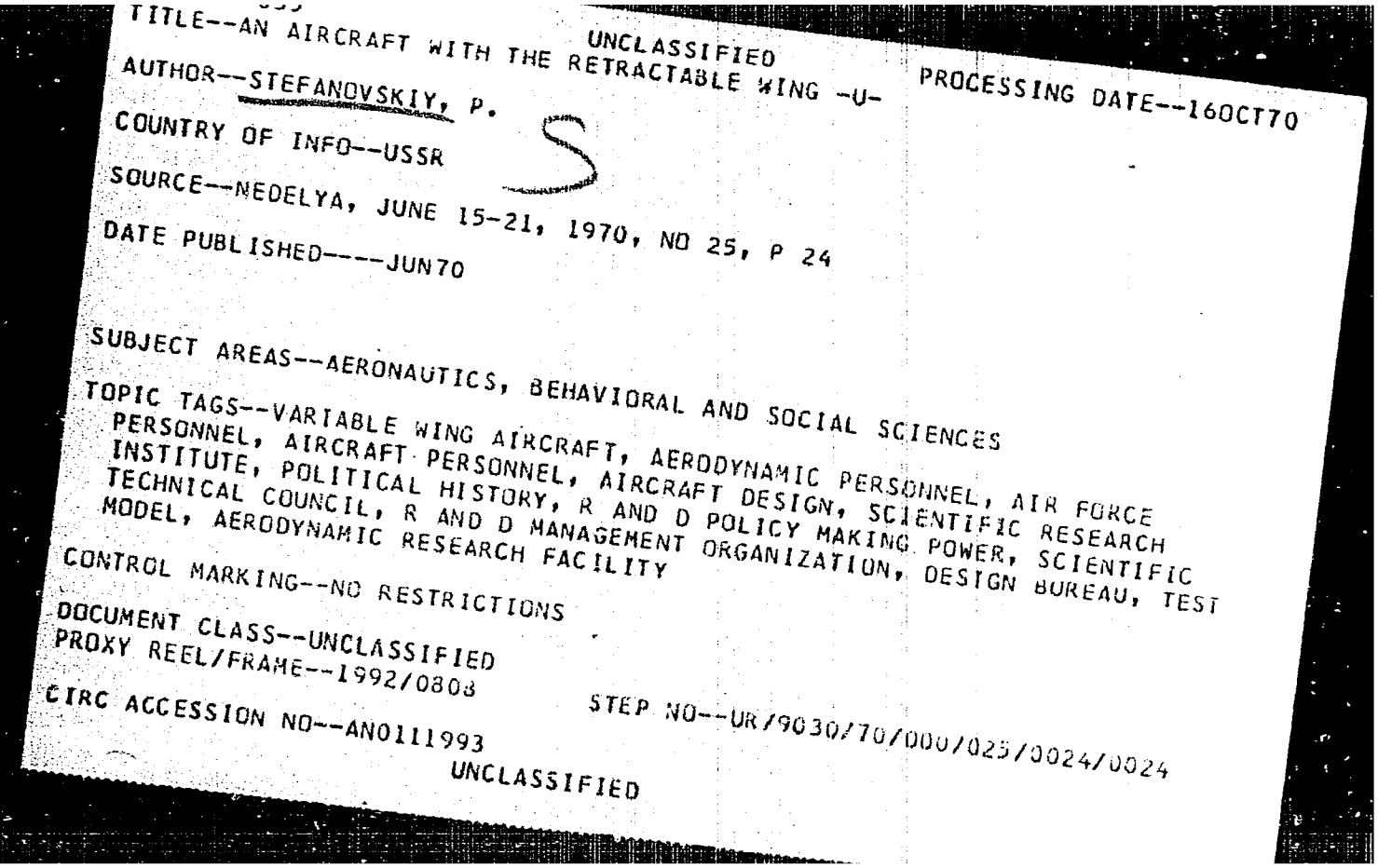

UNCLASSIFIED

TITLE--AN AIRCRAFT WITH THE RETRACTABLE WING -U-

PROCESSING DATE--16OCT70

AUTHOR--STEFANOVSKIY, P.

COUNTRY OF INFO--USSR

SOURCE--NEDELYA, JUNE 15-21, 1970, NO 25, P 24

DATE PUBLISHED----JUN70

SUBJECT AREAS--AERONAUTICS, BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--VARIABLE WING AIRCRAFT, AERODYNAMIC PERSONNEL, AIR FORCE PERSONNEL, AIRCRAFT PERSONNEL, AIRCRAFT DESIGN, SCIENTIFIC RESEARCH INSTITUTE, POLITICAL HISTORY, R AND D POLICY MAKING POWER, SCIENTIFIC TECHNICAL COUNCIL, R AND D MANAGEMENT ORGANIZATION, DESIGN BUREAU, TEST MODEL, AERODYNAMIC RESEARCH FACILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/0803

STEP NO--UR/9030/70/000/025/0024/0024

CIRC ACCESSION NO--AN0111993

UNCLASSIFIED

2/2 035 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AN0111993

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REMINISCING ABOUT HIS YOUTH, STEFANOVSKIY RECALLS THE DEVELOPMENT OF AN AIRPLANE WITH VARIABLE WING GEOMETRY. THE IDEA OF A PLANE THAT COMBINED THE ADVANTAGES OF A BIPLANE AND A MONOPLANE WAS SUGGESTED BY G. KRAVCHENKO, S. SUPRUN AND A. SEROV, HEROES OF THE SOVIET UNION, AND GAINED THE SUPPORT OF A. FILIN, HEAD OF THE SCIENTIFIC RESEARCH INSTITUTE OF THE AIR FORCE (NII VVS) AN OUTSTANDING ENGINEER AND PILOT, AND ALSO BRIGADE COMMANDER. THE PROJECT WAS DEVELOPED BY V. V. SHEVCHENKO, ENGINEER AND TEST PILOT OF THE NII VVS AND DISCUSSED AT A SCIENTIFIC COUNTIL UNDER THE CHAIRMAN OF Z. A. IOFFE, CHIEF ENGINEER OF THE AIR FORCE. THE COUNCIL PASSED IOFFE'S MOTION TO GIVE SHEVCHENKO AN OPPORTUNITY TO CONDUCT EXPERIMENTAL RESEARCH AT TSAGI LABORATORIES. THE PROJECT GAINED THE SUPPORT OF ANATOLIY KONSTANTINOVICH SEROV, CHIEF INSPECTOR OF THE AIR FORCE, AFTER HE HAD THE OPPORTUNITY TO SEE THE FULL SIZE MOCK UP OF THE NEW PLANE (MADE BY ENGINEER P. J. NOSIKOV). AFTER A REPORT TO STALIN, A DESIGN BUREAU WAS ESTABLISHED UNDER THE DIRECTION OF SHEVCHENKO TO BUILD THE PLANE WHICH WAS TAKEN INTO THE AIR FOR TEST FLIGHT BY VASILIY FEDOROVICH KUESHOV, ON MAY 29, 1940. THE SECOND WING WAS RETRACTED SUCCESSFULLY DURING A FLIGHT ON JUNE 21, 1940, BY ENGINEER PILOT AND HERO OF THE SOVIET UNION GEORGIY MIKHAYLOVICH SHIYANOV. THE THIRD MOVEL OF THE PLANE WAS TO FLY AT SPEEDS UP TO 720 KMS PER HOUR AND WOULD HAVE A LANDING SPEED OF 107 KMS PER HOUR. HOWEVER, ITS CONSTRUCTION WAS INTERRUPTED BY THE WAR.

UNCLASSIFIED

USSR

BAR'YAKHTAR, V. G., BOROVIK, A. YE., POPOV, V. A., and STEFANOVSKIY, YE. P., Physicochemical Institute of the Academy of Sciences Ukrainian SSR

"The Domain Structure of an Antiferromagnet Resulting From Variations in the Character of the Magnetic Anisotropy"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 59, No 4, Oct 70, pp 1299-1306

Abstract: The article considers the case of the phase transition (with respect to temperature) of the first kind $\phi_{\parallel} \rightleftarrows \phi_{\perp}$. Distributions are obtained for antiferromagnet sublattice magnetic moments at the interfaces of phases $\phi_{\parallel}$ and $\phi_{\perp}$ (90° boundary), as well as 180° domain boundaries in antiferromagnets with weak ferromagnetism. The surface energies of the 90 and 180° domain walls are calculated, and the domain structures for a plane-parallel plate are determined and domain sizes estimated. It is shown that a thermo-

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USSR

BAR'YAKHTAR, V. G., et al., Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 59, No 4, Oct 70, pp 1299-1306

dynamically stable domain structure may occur in the phase transition due to weak ferromagnetism of the phase with magnetic anisotropy of the "easy plane" type. The surface energy of the 90° domain boundary is significantly less than that of the 180° domain boundary. However, the surface energy of the 180° interface declines significantly as the phase transition temperature is approached and becomes on the order of the 90° interface.

The authors thank A. I. AKHIYEZER, A. S. BOROVIK-ROMANOV and V. V. YEREMENKO for discussing the results.

2/2

USSR

UDC 666.189.212:535.818.7

DOVGIY, YA.O., BILYY, YA.M., BRILENSKIY, M.I., GNYP, R.G., [illegible], V.P., SIMKIN, YU.YE., STEFANSKIY, I.V. [L'vov State University imeni Ivan Franko]

"Frequency-Contrast Characteristics And Noise Of Fiber Optic Cathodoluminescence Screens"

Tekhnika kino i televideniya, No 4, Apr 1972, pp 54-55

Abstract: Measurements were made of the frequency-contrast characteristics (FCC) and noise of fiber optic cathodoluminescence screens during their excitation by a static electron beam. The measurements were made by methods developed for measuring the FCC and noise of cathodoluminescence screens with a glass substrate. The principal scheme of the device used for measuring FCC is described and a comparison is made of FCC measured by the micrometric method and with electron excitation. The additive contribution of the glass fiber substrate to the noise characteristics of the screen is shown. 3 ill. 4 ref.

1/1

USSR

UDC 612.82

STEFANTSOV, B. D., and OGANISYAN, A. A., Laboratory of the Neurophysiological Basis for Compensation of Central Nervous System Functions, Institute of Higher Nervous Activity and Neurophysiology, Academy of Sciences USSR

"Compensation and Restoration of Functions Disturbed by Lesions of the Central and Peripheral Nervous System"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 5, 1973, pp 681-687

Abstract: The most important results of research concerning compensation and restoration of disturbed nervous functions, which was conducted during the past 10 years under the general direction of Prof. E. A. Asratyan, Academician of the Academy of Sciences Armenian SSR and Corresponding Member of the Academy of Sciences USSR, are summarized. During World War II, Asratyan investigated traumatic shock in wounded soldiers and, on the basis of his concept of the protective and healing role of certain types of central inhibition predominating in the presence of organic lesions in the nervous system, developed new methods of treating and preventing traumatic shock. By analyzing experimental results and clinical post-shock observations, Asratyan established his most important theory of the crucial role played by the cerebral cortex in restoration of motor functions, emphasizing that this is not the result of automatic

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USSR

STEFANTSOV, B. D., and OGANESYAN, A. A., Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 5, 1973, pp 681-687

shifts taking place in the nervous system but that it is a process requiring training and determination by which duplicating mechanisms are utilized and gradually developed to the point that they begin to serve as the anatomic and physiological basis for reelaboration of previously mastered conditioned reflexes. Although fine motor movements are never regained, the overall motor recovery can be so significant that it warrants the concept of a relatively high, though not absolute, flexibility of the central nervous system.

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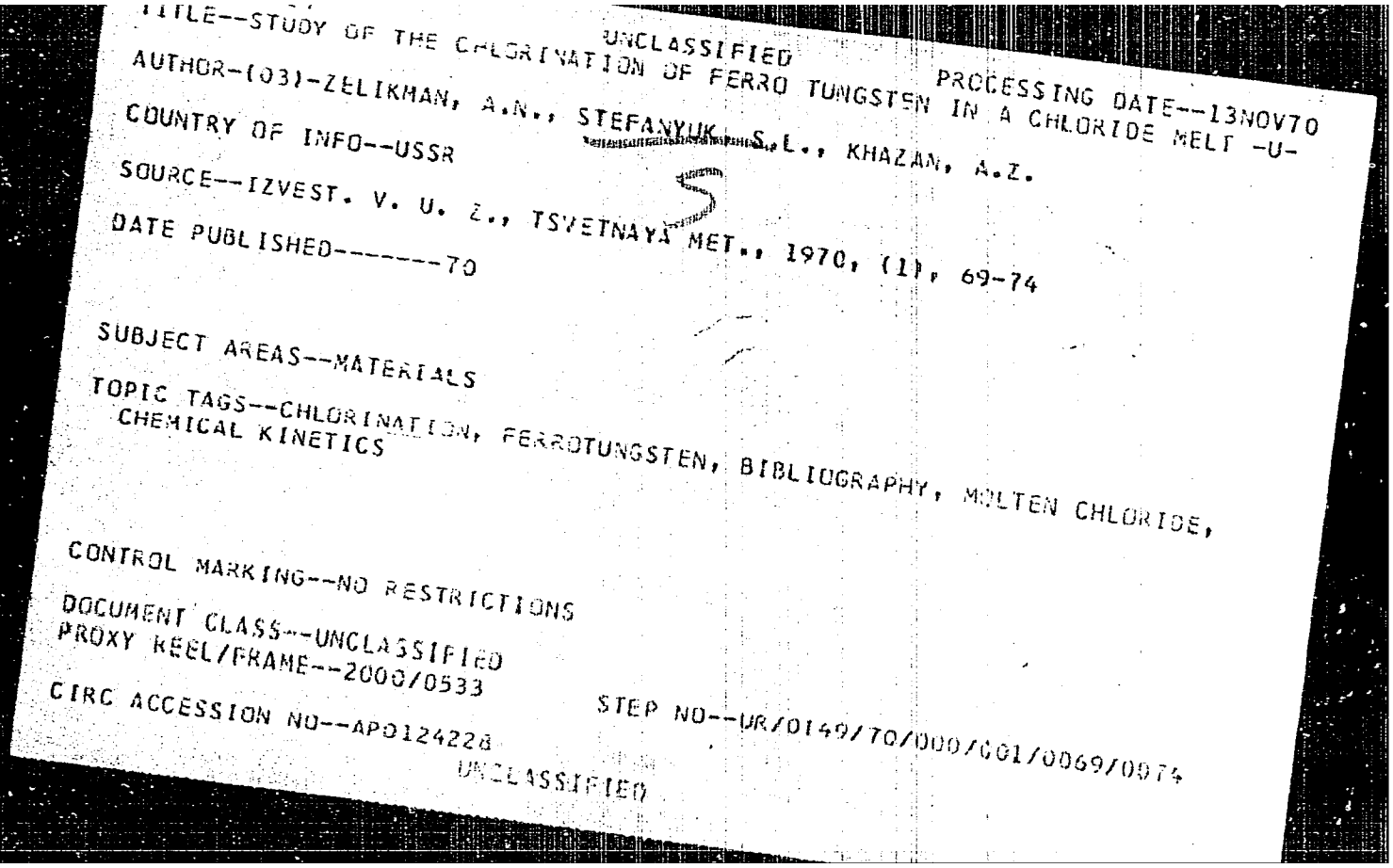


UNCLASSIFIED

TITLE--STUDY OF THE CHLORINATION OF FERRO TUNGSTEN IN A CHLORIDE MELT -U-

PROCESSING DATE--13NOV70

AUTHOR-(03)-ZELIKMAN, A.N., STEFANYUK, S.L., KHAZAN, A.Z.

COUNTRY OF INFO--USSR

SOURCE--IZVEST. V. U. Z., TSVETNAYA MET., 1970, (1), 69-74

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHLORINATION, FERROTUNGSTEN, BIBLIOGRAPHY, MOLTEN CHLORIDE, CHEMICAL KINETICS

CONTROL MARKING--NO RESTRICTIONS

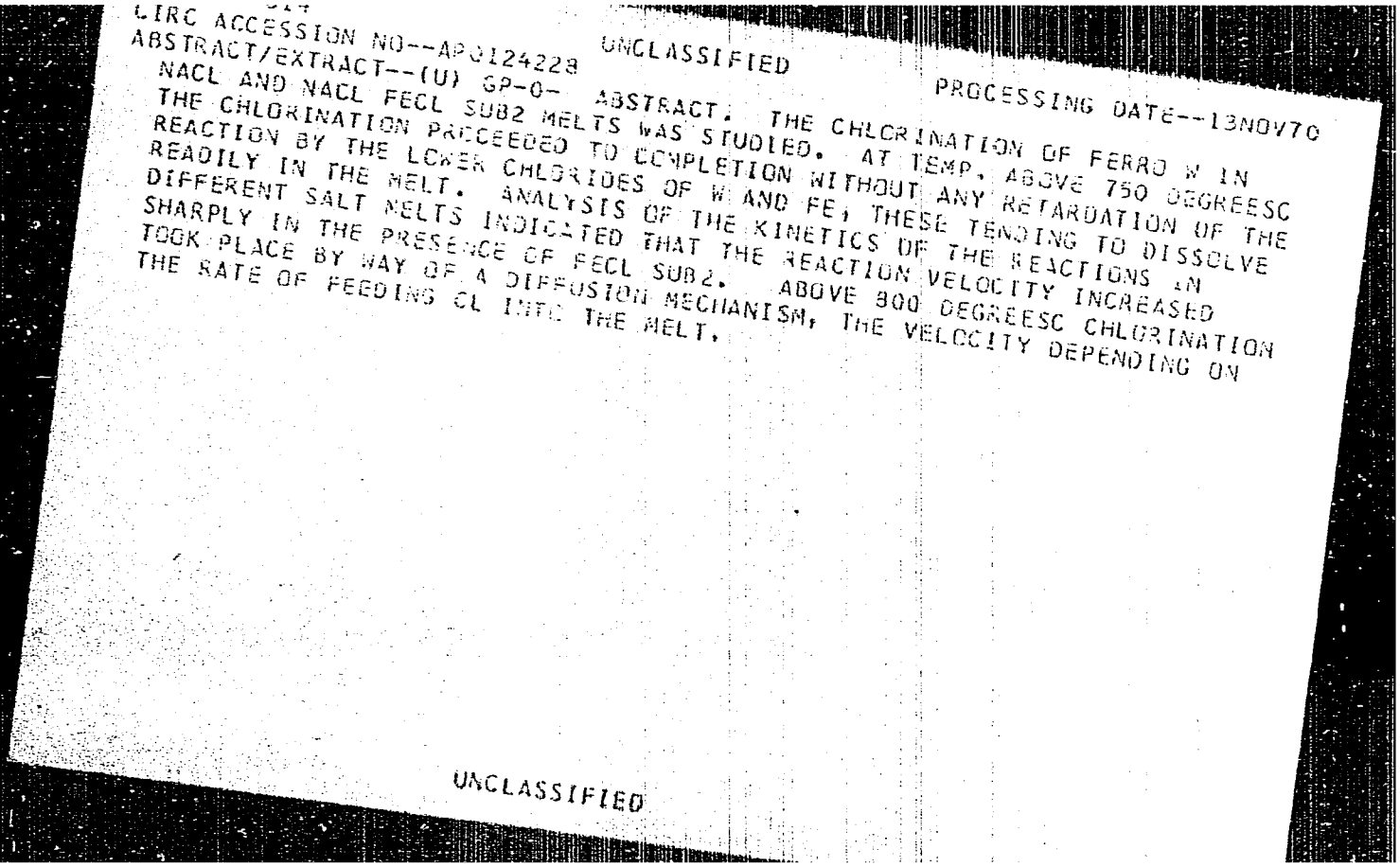
DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0533

STEP NO--UR/0149/70/000/001/0069/0074

CIRC ACCESSION NO--AP0124228

UNCLASSIFIED



CIRC ACCESSION NO--AP0124228 UNCLASSIFIED PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHLORINATION OF FERRO W IN NACL AND NACL FECL SUB2 MELTS WAS STUDIED. AT TEMP. ABOVE 750 DEGREESC THE CHLORINATION PROCEEDED TO COMPLETION WITHOUT ANY RETARDATION OF THE REACTION BY THE LOWER CHLORIDES OF W AND FE, THESE TENDING TO DISSOLVE READILY IN THE MELT. ANALYSIS OF THE KINETICS OF THE REACTIONS IN DIFFERENT SALT MELTS INDICATED THAT THE REACTION VELOCITY INCREASED SHARPLY IN THE PRESENCE OF FECL SUB2. ABOVE 800 DEGREESC CHLORINATION TOOK PLACE BY WAY OF A DIFFUSION MECHANISM, THE VELOCITY DEPENDING ON THE RATE OF FEEDING CL INTO THE MELT.

UNCLASSIFIED

USSR

UDC 612.822.3.014.482:31

ANAN'YEV, V. M., VLASOVA, N. I., NAZAROV, V. A., SOBOLEVA, K. V., STEFASHKIN, Yu. P.

"Mutual Correlation Coefficients of the Electroencephalograms of Irradiated Rabbits"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 3, 1972, pp 51-53

Abstract: A study was made of means of dynamic characterization of the system of mutual relationships in the cortical electrical activity of rabbits by mutual correlation coefficients of the EEG. The experiments were performed on seven rabbits using the procedure described previously [V. M. Anan'yev, et al., Byull. eksper. biol., No 1, 91, 1966]. The nature of the variations of the mutual correlation coefficients of the EEG for background recordings lasting 28 seconds was studied. The dynamics of the variation of the mutual correlation coefficients averaged with respect to the entire cerebral cortex of rabbits irradiated by gamma-radiation in a superlethal dose of 1,500 roentgens are illustrated in graph form. The presented data indicate the effect of gamma-radiation on the cerebral cortex of the animals as a whole without space detailing. The mutual correlation coefficient of the EEG combined with the

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USSR

AVAN'YEV, V. M., et al., Byulleten' Eksperimental'noy Biologii i Meditsiny, No 3, 1972, pp 51-53

frequency and area indexes of the EEG is a sensitive indicator of the variations of the functional state of the cortex, and to a different extent it reflects the nature of the system of mutual relationships of the electrical activity of the cortex in its basic zones. It is expedient to use the generalized correlation index to characterize the reaction of the cortex to irradiation (to estimate the severity of damage to the cortex and the degree of restoration of the initial state).

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UDC 621.785.5:537.525

USSR

TETERSKIY, V. A., STEFYUK, T. YU., ROTER, YE. A., Physical-Mechanical Institute of the Ukrainian SSR Academy of Sciences, L'vov

"Device for Determining the Physical-Mechanical Characteristics of Metals Saturated with Gases in Glow Discharge"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 8, No 2, 1972, pp 90-91

Abstract: A device is introduced which was designed and manufactured to perform studies of the mechanical properties of metal in the case of saturation of them with gases in a broad temperature-time interval. The basic assemblies include the operating chamber, a vacuum system, a loading device, instruments for automatic recording of the stress-strain diagram, an electric temperature measurement and regulation system, and an electric system for measuring and regulating the basic parameters of electric discharge. The device permits ionization of the gas medium both by radioactive isotopes of α and β radiation and by electric discharge. Electric currents from 10^{-6} to 10^{-1} amps can be obtained, and the magnitude of the currents predetermines the degree of ionization and, consequently, the concentration of active gas particles on the surface of the specimen. The electrical resistance can be measured during the strain process and by the electrical conductivity as a function of the degree of strain [I. A. Oding, et al., Izv. AN SSSR, Metallurgiya gornoye delo, Nos 1 and

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USSR

TETERSKIY, V. A., et al., Fiziko-Khimicheskaya Mekhanika Materialov, Vol 8, No 2, 1972, pp 90-91

2, 1964], it is possible to judge the rupture kinetics and the nature of the interaction of the crystal lattice defects with interstitial admixtures. The device has demonstrated high reproducibility of the results in the case of saturation and deformation of specimens in ionized gases.

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USSR

KARKLIT, A. K., STEGANTSEV, S. A., and PETROVA, Ye. V., All-Union Institute of Refractory Materials

"Properties of Ceramics in the $MgO-MgCr_3O_4$ System"

Moscow, Ogneupory, No 12, Dec 70, pp 38-40

Abstract: A study was made of the sintering of masses of magnesium oxide and chrome-magnesium spinel. The effect of the chrome-magnesium spinel on sintering and on the microstructure of the periclase was studied. Mixtures were prepared from analytical-grade materials. Magnesium oxide was preliminarily calcined at 900°C, and then the powders were mixed in drums, pelletized, and recalcined at 1750°C for 4 hours. The completion of the spinel formation reaction was controlled by chemical analysis according to the free magnesium oxide content. Compositions covering a wide range of proportions were investigated. Mixtures were pelletized under a pressure of 500 kg/cm^2 and calcined at 1400-1700°C for one hour. Samples from a pure periclase had the greatest density. Porosity increased sharply with spinel addition, reaching a maximum at 35% of spinel. Microstructure was studied on samples calcined at 1700°C. It differed sharply with spinel content; a 40-45%

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USSR

KARKLIT, A. K., et al, Ogneupory, No 12, Dec 70, pp 38-40

spinel content contributed to periclase recrystallization, while the periclase and $MgCr_2O_4$ grain sizes were maximum. It is concluded that the presence of a small quantity of spinel in a periclase delays sintering. This is explained by variations in the crystal lattice related to the formation of solid solutions.

2/2

STEGUNIN, S. I.

UDC: 616.34-036.11-084.4:374(470.43)

SANITARY EDUCATION RELATING TO CONTROL OF ACUTE INTESTINAL DISEASE IN KUYBYSHEVSKAYA OBLAST IN 1971

[Article by S. I. Stegunin, L. I. Selina, Chair of Social Hygiene and Public Health Organization (headed by Docent S. I. Stegunin), Kuybyshev Medical Institute imeni D. I. Ul'yanov; Moscow, Sovetskoye Zdravookhraneniye, Russian, No 10, 1972, submitted 10 May 1972, pp 12-16]

The occurrence of outbreaks of acute intestinal disease in Kuybyshevskaya Oblast made it imperative to initiate more active sanitary and epidemic control measures and intensify hygienic education of the people by medical workers under the guidance and control of Party and soviet bodies.

On 17 March 1971, the executive committee of the Kuybyshevskaya Oblast Council of Workers' Deputies adopted decision No 163 "On intensification of propaganda of sanitary and hygiene information and institution of universal sanitary education of the oblast's population in 1971." This compelled the executive committees of municipal and rayon councils of worker's deputies to initiate propaganda of sanitary and hygienic information everywhere to be implemented by medical workers and teachers.

The committee for television and radio broadcasting, the editorial boards of oblast, municipal, and rayon newspapers with large circulation were charged to make broad propaganda of sanitary and hygienic information and preventive measures against acute intestinal disease by publishing and broadcasting speeches by the scientists from the Scientific Research Institute of Hygiene and Kuybyshev Medical Institute, practicing physicians and public health organizers at least once or twice a week. It was suggested to the oblast administration for distribution of films to organize screening of films on prevention of acute intestinal disease and personal hygiene before the start of feature film presentations.

Oblast administrations for trade, public catering, dairy, meat, and food industry and municipal services were instructed to work toward increasing the responsibility of each member of enterprise staff for

JPRS 57493
13 Nov 72

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203130007-3"

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UDC: 629.7.018.1

USSR

KOPTEV, V. I., ALEKSASHIN, L. V., MAKSIMOV, Yu. S., PEKHOTIKOVA, V. Ye., STEKENIUS, K. A.

"A Device for Determining the Angle of Attack of a Model in a Wind Tunnel"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 2, Jan 72, Author's Certificate No 324536, Division G, filed 1 Jun 66, published 23 Dec 72, p 133

Translation: This Author's Certificate introduces a device for determining the angle of attack of a model in a wind tunnel. The device contains a mechanism for setting angles of attack, a model holder, and recording equipment. The angle-setting mechanism is mounted in the working section of the wind tunnel. As a distinguishing feature of the patent, the unit is designed for improved precision in determining the angle of attack in any plane. Fastened to the walls of the working section of the wind tunnel are the poles of a permanent electromagnet, and a pickup which responds to a change in the axial position of the constant magnetic field is installed in the model or in the holder close to the model.

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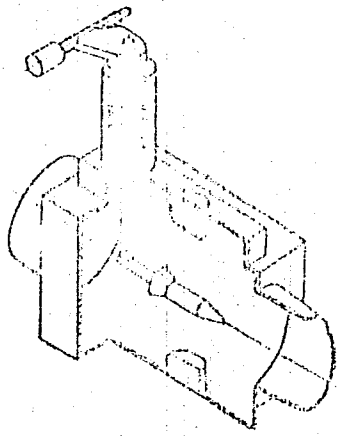
USSR

KOPTEV, V. I. et al., Soviet Patent No 324536



2/2

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--RAMAN EFFECT IN A SODIUM CHLORIDE CRYSTAL AT A LOW TEMPERATURE -U-

AUTHOR-(02)-STEKHANOV, A.I., KOROLKOV, A.P.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(4), 1076-9

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SODIUM CHLORIDE, CRYSTAL, LOW TEMPERATURE PROPERTY, RAMAN SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0927 STEP NO--UR/0181/70/000/004/1076/1079

CIRC ACCESSION NO--AP0121529

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121529

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RAMAN SPECTRUM OF THE 2ND ORDER WAS INVESTIGATED OF NACL CRYSTAL AT 90DEGREESK. SCATTERING WAS EXCITED WITH THE RESONANCE LINE OF HG 2536.5 ANGSTROM AND THE SPECTRUM WAS RECORDED PHOTOGRAPHICALLY. IN COMPARISON WITH THE SPECTRUM AT 300DEGREESK A SHIFT WAS OBSD. OF THE FREQUENCIES OF INTENSITY MAX. AND THE VARIATION OF THE RELATIVE INTENSITY OF VARIOUS SECTIONS OF THE SPECTRUM. COMPARISON WAS MADE WITH THEORETICAL 2-PHONON D. OF STATES.

FACILITY: FIZ. TEKH. INST. IM. IOFFE, LENINGRAD, USSR.

UNCLASSIFIED

1/2 038 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--THE VIBRATIONAL SPECTRUM, THE OPTICAL CONSTANTS, AND THE IONICITY OF THE BOND OF CDGEAS SUB2 IN CRYSTAL AND AMORPHOUS PHASES BY IR

AUTHOR-(04)-ZLATKIN, L.B., MARKOV, YU.F., STEKHANOV, A.I., SHUR, M.S.

COUNTRY OF INFO--USSR

SOURCE--I. PHYS. CHEM. SOLIDS 1970, 31(3), 567-71

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--VIBRATION SPECTRUM, OPTIC PROPERTY, IR SPECTRUM, CHEMICAL BONDING, CRYSTAL STRUCTURE, CADMIUM COMPOUND, GERMANIUM COMPOUND, ARSENIC COMPOUND, CRYSTAL LATTICE STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1396 STEP NO--US/0000/70/031/003/0567/0571

CIRC ACCESSION NO--AP0107869

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--16OCT70

2/2 038

CIRC ACCESSION NO--AP0107869

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE IR REFLECTIVITY IS INVESTIGATED IN THE FREQUENCY REGION FROM 2 TO 75 MU FOR T EQUALS 295DEGREESK. CHANGES OF THE VIBRATIONAL SPECTRUM TAKE PLACE IN THE REGION OF THE LATTICE REFLECTION WHILE CLEAR CORRELATION EXISTS IN THE REGIONS OF SMALL (SMALLER THAN 25 MU) AND LARGE (GREATER THAN 60 MU) WAVELENGTHS BETWEEN THE OPTICAL CONSTS. OF COGEAS SUB2 IN THE CRYSTAL AND AMORPHOUS PHASES. THE DISPERSION OF N AND THE DIELEC. CONST. WERE CALCD. BY KRAMERS KRONIG AND DISPERSION ANAL. AND THE VIBRATIONAL FREQUENCIES DETD. THE QUAL. AND QUANT. PARAMETERS OF THE IONICITY OF THE BOND HAVE BEEN ESTD. THE CHEM. BOND IN COGEAS SUB2 IS IONIC COVALENT WITH LARGER DEGREE OF COVALENT PART. FACILITY: A. F. IOFFE PHYS. TECH. INST., LENINGRAD, USSR.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--CORROSION PROPERTIES OF HYDROFINED REACTIVE FUELS UNDER CONDITIONS OF WATER CONDENSATION -U-

AUTHOR-(02)-CHURSHUKOV, YE.S., STEKHUN, A.I.

COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (5), 17-19

DATE PUBLISHED-------70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--PETROLEUM REFINING PROCESS, CORROSION RATE, WATER, LIQUID FUEL, HYDROREFINING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/1949 STEP NO--UR/0318/70/000/005/0017/0019

CIRC ACCESSION NO--AP0133793

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133793

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FUELS OF OPTIMUM REFINING DEGREE HAD 0.05-0.07PERCENT TOTAL S AS ANTICORROSIVE STABLE COMPOS. FUELS FROM WHICH S WAS COMPLETELY REMOVED BY HYDROFINING HAD INCREASED CORROSIVITY, DUE TO FORMATION OF CORROSIVE SOL. OXIDN. PRODUCTS.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--USE OF ADSORPTION REFINING FOR INCREASING THE STABILITY OF HYDROCRACKING DISTILLATES -U-

AUTHOR-(03)-KLIMENOK, B.V., STEKHUN, A.I., SKLYAR, I.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., NEFT GAZ 1970, 13(3), 59-64

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS, PROPULSION AND FUELS

TOPIC TAGS--THERMAL STABILITY, DIESEL FUEL, PETROLEUM REFINING, PETROLEUM HYDROCRACKING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/2082 STEP NO--UR/0152/70/013/003/0059/0064

CIRC ACCESSION NO--AP0127455

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0127455

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DIESEL OIL FRACTION, B. 180-350DEGREES, OBTAINED FROM A HYDROCRACKED DEASPHALTATE, HAD HIGH CONTENT OF N COMPDS., A HIGH ACIDITY AND IODINE NO., A DARK COLOR, AND LOW STABILITY COMPARED WITH STD. FUEL. AFTER REFINING IT WITH SYNTHETIC SPHERICAL AND CRUMBLED AL SILICATE AS ADSORBENT AT 80 AND 50DEGREES, RESP., A STABLE COMPONENT FOR DIESEL FUEL WAS OBTAINED. THE EFFECT WAS OBTAINED BY ADSORPTION OF THE UNSTABLE RESINOUS MATTER, CONSISTING MAINLY OF HETEROCYCLIC COMPDS. OF N AND S AND THE OXION. PRODUCTS OF THEIR UNSTABLE COMPONENTS. ADSORPTION REFINING WAS MORE ADVANTAGEOUS THAN HYDROFINING. THE ADSORBENTS WERE REGENERATED FOR 2 HR AT 550DEGREES. CHARACTERISTICS OF THE PRODUCTS AND EXPTL. DATA ARE PRESENTED. FACILITY: UFIM. NEFT. INST., UFA, USSR.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--CHEMICAL STABILIZATION OF HYDROCRACKING DISTILLATES -U-

AUTHOR-(04)-EYGENSON, A.S., STEKHUN, A.I., SKLYAR, I.M., CHERTKOV, YA.B.

COUNTRY OF INFO--USSR

SOURCE--KHIM. TEKHNOL. TOPL. MASEL 1970, 15(2), 1-4

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHEMICAL PURIFICATION, IR SPECTRUM, SPECTROSCOPIC ANALYSIS, OPTIC PROPERTY, PETROLEUM HYDROCRACKING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/1117 STEP NO--UR/0065/70/015/002/0001/0004

CIRC ACCESSION NO--AP0054024

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054024

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PURIFICATION OF A HYDROCRACKING DISTILLATE (58.3PERCENT PARAFFINIC NAPTHENIC AND 31.8 AND 9.9PERCENT MONO AND BICYCLIC AROMATIC HYDROCARBONS) WITH 10PERCENT BY VOL. OF FRESH 86PERCENT H SUB2 SO SUB4 AND ALTERNATIVELY WITH 10PERCENT BY VOL. OF SPENT H SUB 2 SO SUB4 FROM ALKYLATION PROCESSES RESULTED IN REDNS. IN: ACIDITY FROM 5.5 TO 1.8 AND 1.2 MG KOH-100 ML, S CONTENT FROM 0.54 TO 0.32 AND 0.34PERCENT, IODINE NO. FROM 14.7 TO 4.4 AND 3.6 G I-100 G, TAR CONTENT FROM 61.0 TO 7.2 AND 7.6 MG-100 ML, N CONTENT FROM 0.128PERCENT (0.090PERCENT N BASES) TO 0.0028 AND 0.0024PERCENT (0.0011 AND 0/0.00012PERCENT N BASES), AND STABILITY AS MEASURED BY REDNS. IN OPTICAL DENSITY FROM 1.6 TO 0.054 AND 0.075 TAU BEFORE AND FROM 1.85 TO 0.149 AND 0.320 TAU AFTER HEATING 2 HR AT 140DEGREES IN THE PRESENCE OF CU. GROUP HYDROCARBON COMPN. WAS ALMOST UNCHANGED. REDNS. IN IODINE NO. REFLECTED, NOT REDUCED UNSATD. HYDROCARBON CONTENT, BUT REDUCED HETEROCYCLIC COMPD. CONTENT, WHICH WAS CONFIRMED BY IR SPECTRAL ANAL. OF THE EXTS. WHEN THE VOL. RATIOS WERE REDUCED TO 1:50 AND 1:40, RESP., ALL THE CHANGES WERE SMALLER. THE NONHYDROCARBON MIXTS. IN 3.8PERCENT YIELD BY THIS METHOD CONTAINED 6.58PERCENT S, 3.6PERCENT N, AND 3.49PERCENT O.

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USSR UDC: 621.372.413(088.8)

STEKLOV, L. V., SUKAZOV, E. A.MAKAROVA, L. P.

"A Coaxial Tank Circuit"

USSR Author's Certificate No 265981, filed 2 Jan 68, published 2 Jul 70 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1B170 P)

Translation: A tank circuit is proposed which contains a movable shorting plunger, a ferrite tuning element and a solenoid. To increase the effectiveness of the control system, an additional ferrite core is included which is coaxial with the ferrite element in the space behind the plunger.

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USSR UDC 621.791.75.045-52+621.791.046

IVOCHKIN, I.I., ALEKSEYEV, A.I. (Candidates of Techn. Sciences) / VNIImontazhspetsstroy /, LEBEDEV, B.F. (Doctor of Techn. Sciences) / Institute of Electric Welding imeni Ye.O. Paton /, STEKLOV, O.I. (Cand. of Techn. Sciences) / Moscow Higher Technical School imeni N.E. Bauman /, IVOCHKIN, I.M. (Engineer) / Sokolovskiy Plant of Erecting Cranes / and MOTSOKHIN, S.B. (Engineer) / Trust No 7 /

"Automatic Submerged Arc Welding Using Powder Filler Metal"

Moscow, Svarochnoye proizvodstvo, No 2, Feb 72, pp 15-17

Abstract: The use of powder filler metal in submerged arc welding permits joining plate structures up to 50 mm thick without bevelling in two passes at a lower per-unit consumption of heat energy. Described here is a new analytical technique for determining the

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IVOCHKIN,I.I.,et al, Svarochnoye proizvodstvo, No 2,Feb 72,pp 15-17

optimal technological parameters of welding with the use of powder filler metal including the root gap, welding rate, electrode wire feed, granulation,and the amount of powder filler metal. The weld quality is rated on the basis of fusion depth, shape factor, weld continuity,and the heat efficiency of the welding. Proposed is a new automatic direct submerged (two-sided) welding technology with metal powder as the filler metal for low carbon and low-alloy steels up to 50 mm thick without bevelling. The new process is said to increase the welding efficiency two to three fold (as compared to conventional welding),decrease the cost per meter of weld by about 80%,and produce an economic effect within the 10-50 mm thickness range averaging at 330 rubles per ton. (3 illust., 3 tables, 4 biblio. ref.)

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USSR

UDC 621.791.052:620.193/.199:621.785.375

STEKLOV, O. I. (Cand. of Techn. Sciences), Moscow Higher Technical School imeni N. E. Bauman (MVTU)

"Effect of Residual Welding Stresses on Corrosion Damage of Weld Joints"

Moscow, Svarochnoye proizvodstvo, No 5, May 72, pp 12-15

Abstract: An analysis has been made of the effect of residual welding stresses on the corrosion damage of welded structures under biaxial state of stress. An increase in these stresses promotes cracking. The summation of the effects of stresses and external loads markedly increases the cracking of weld joints. No cracking occurs below threshold residual welding stresses (in the absence of external loads). The magnitude of the threshold stresses is a function of the material and the corrosive medium. Methods for reducing the effect of residual stresses are cited to include weld design, technology, and mechanical treatment. (3 illustrations, 2 tables, 10 bibliographic references)

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USSR

UDC 621.791.052.004.12:537.213

STEKLOV, O. I., Candidate of Technical Sciences, and LUCHKIN, R. S., Engineer, Moscow Higher Technical School imeni N. E. Bauman

"Use of the Thermoelectric Potential Method for Studying the Inhomogeneity of Welded Joint Properties"

Moscow, Svarochnoye Proizvodstvo, No 12, Dec 70, pp 34-35

Abstract: The article suggests a method for studying the inhomogeneity of welded joint properties based on a determination of the thermoelectric potential. Aside from internal factors (surface condition of the material, structure and chemical composition of the material, elastoplastic state etc.), the thermoelectric potential value is affected by external factors, viz. the heating temperature and material of the probe tip, the pressure on the tip, the design of the current supply. The character of the thermoelectric potential distribution and the potential value depend on the welding method and heat-treatment conditions for the welded joints.

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USSR UDC 621.791.7:62-71:669.295

STEKLOV, O. I., Moscow Higher Technical School imeni N. E. Bauman

"Use of Additional Cooling in the Welding of Titanium"

Moscow, Svarochnoye Proizvodstvo, No 9, Sep 70, pp 22-24

Abstract: In the process of welding, commercial titanium becomes sensitive to overheating, results in grain coarsening, partial hardening (due to the formation of a martensite-like acicular phase), and deterioration of the plastic and corrosion properties of the welds. Over-heating may be prevented by additional cooling of the metal during welding; it will facilitate the production of a fine-grain structure of the weld in the heat-affected zone, decrease the elastic-plastic zone of the weld, and reduce the critical gas absorption zone (350°C). Various methods of additional cooling are discussed and an assessment is made of the effectiveness of water cooling in the experimental argon arc butt welding of imported pipes 300 mm in diameter with a wall thickness of 8 mm. The welded joint was cooled by filling the pipe with water. The oscillography of the thermal cycle was made with an N-700 oscillograph using conventional techniques. Water cooling markedly decreases the structural transformation zone and the width of the weld and limits the critical gas absorption zone.
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STEKLOV, O. I., Svarochnoye Proizvodstvo, No 9, S p 70, pp 22-24

Tensile and bend test data and hardness determinations show that the mechanical properties of welds obtained with water cooling are close to those obtained without cooling.

USSR

UDC: 681.333

KOSHEVOY, A. A., STEKLOV, V. K., MISHCHENKO, R. K., MANZHULO, A. P.

"A Device for Modeling Automatic Control Systems"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 36, Dec 72, Author's Certificate No 360673, Division G, filed 4 Jan 71, published 28 Nov 72, p 126

Translation: This Author's Certificate introduces a device for modeling automatic control systems which contains in addition to a model of an automatic control system operational amplifiers, a nonlinearity module, and a model of system sensitivity. As a distinguishing feature of the patent, the device is simplified by connecting the input of the nonlinear module of the automatic control system model to the inputs of two parallel-connected operational amplifiers with limitation of the positive and negative parts of the input signal. The outputs of these operational amplifiers are connected through an adder to the input of one of the two parallel-connected amplifier units of the system sensitivity model.

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USSR UDC 62-501.7-501.12:621.3.089.52

KOSHEVOY, A. A., STEKLOV, V. K., MANZHULO, A. P., MISHCHENKO, R. K.

"A Device for Determining the Sensitivity of Nonlinear Automatic Control Systems"

USSR Author's Certificate No 317046, filed 25 Jun 70, published 10 Jan 72 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 9, Sep 72, Abstract No 9A179 P)

Translation: The proposed device relates to the field of automatic regulation and control and can be used for determining sensitivity functions in automatic control systems containing nonlinear links with nonlinearity of the saturation type. Devices are known for experimental determination of functions [of sensitivity] of the dynamic characteristics of nonlinear automatic control systems to variations in parameters: e. g., a device which realizes the structural method of analysis of the sensitivity of nonlinear systems. Such devices contain a model of the system with a nonlinear element, and a sensitivity model of the system with linear elements. However, such devices are characterized by difficulty of hardware realization of the partial derivative of the output of the nonlinear

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KOSHEVOY, A. A. et al., USSR Author's Certificate No 317046

element with respect to its input. In the proposed device, the input of the nonlinear element in the model of the system is connected to the input of a linear amplification element in the sensitivity model of the system through two parallel-connected operational amplifiers -- one with clipping of the positive part of the input signal, and the other with clipping of the negative part. The amplitude of the compensation signal arriving at the inputs of the operational amplifiers is equal to the saturation level, and the gain of the linear amplification element in the sensitivity model of the system is equal to the gain of the linear part of the nonlinear element in the model of the system. This design simplifies the hardware realization of the device and improves its reliability.

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UDC 62-503.53-501.14

STEKLOV, V. K., MISHCHENKO, R. K., KOSHEVOY, A. A., MANZHULO, A. P.

"A Tracking System With Nonlinear Correction"

USSR Author's Certificate No 318907, filed 23 May 70, published 28 Jan 72 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 9, Sep 72, Abstract No 9A187 P)

Translation: The invention relates to the field of automatic control and can be used in tracking systems where nonlinearity of the backlash type is undesirable. The conventional tracking system is made up of a preamplifier, power amplifier, motor with speed reducer, control object connected in series and covered by feedback, and a relay element connected through an amplifier and differentiating element to the input of the preamplifier. The proposed system also contains a model of a power amplifier with a motor. This model is connected to the input of the power amplifier in the tracking system. The input of the model is connected to the output of the preamplifier, and the motor is connected through a converter to a subtractor whose second input is connected to the output of the relay element, while the subtractor output is connected

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STEKLOV, V. K. et al., USSR Author's Certificate No 318907

to the input of the power amplifier. This improves the accuracy of the tracking system by completely linearizing linearity of the backlash type in the case of slowly changing controlling actions and by eliminating the static error.

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USSR UDC: (621.391.82:621.396.44):621.317.743(088.8)

BERKMAN, N. A., ZOLOTAREV, Ya. M., PONOMERENKO, V. A., RAKHLIN, Ya. A., SKITOV, I. I., STEKLOVA, I. P.

"A Device for Analyzing Pulse Noises and Interruptions in a Communications Channel"

USSR Author's Certificate No 266858, filed 12 Dec 67, published 15 Jul 70 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A294 P)

Translation: Conventional devices for measuring and analyzing pulse noises and interruptions in communications channels are designed for studying telephone channels in the 300-3400 Hz range and group channels in high-frequency telephony systems in the 60-108 kHz range. These devices are unsuited for studying channels in the 312-550 kHz range, and moreover they do not give the required resolution and are not distinguished by high reliability. It is proposed that a short-pulse clamping unit be connected between the selector and quantizing modules with a quantizing pulse oscillator output connected to the controlling input of the clamper through a delay element. A pulse time gradation module is connected between a binary counter and the coincidence circuits of the pulse duration analyzer. When the device is operating in the pulse noise analysis mode, it is connected to a free

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